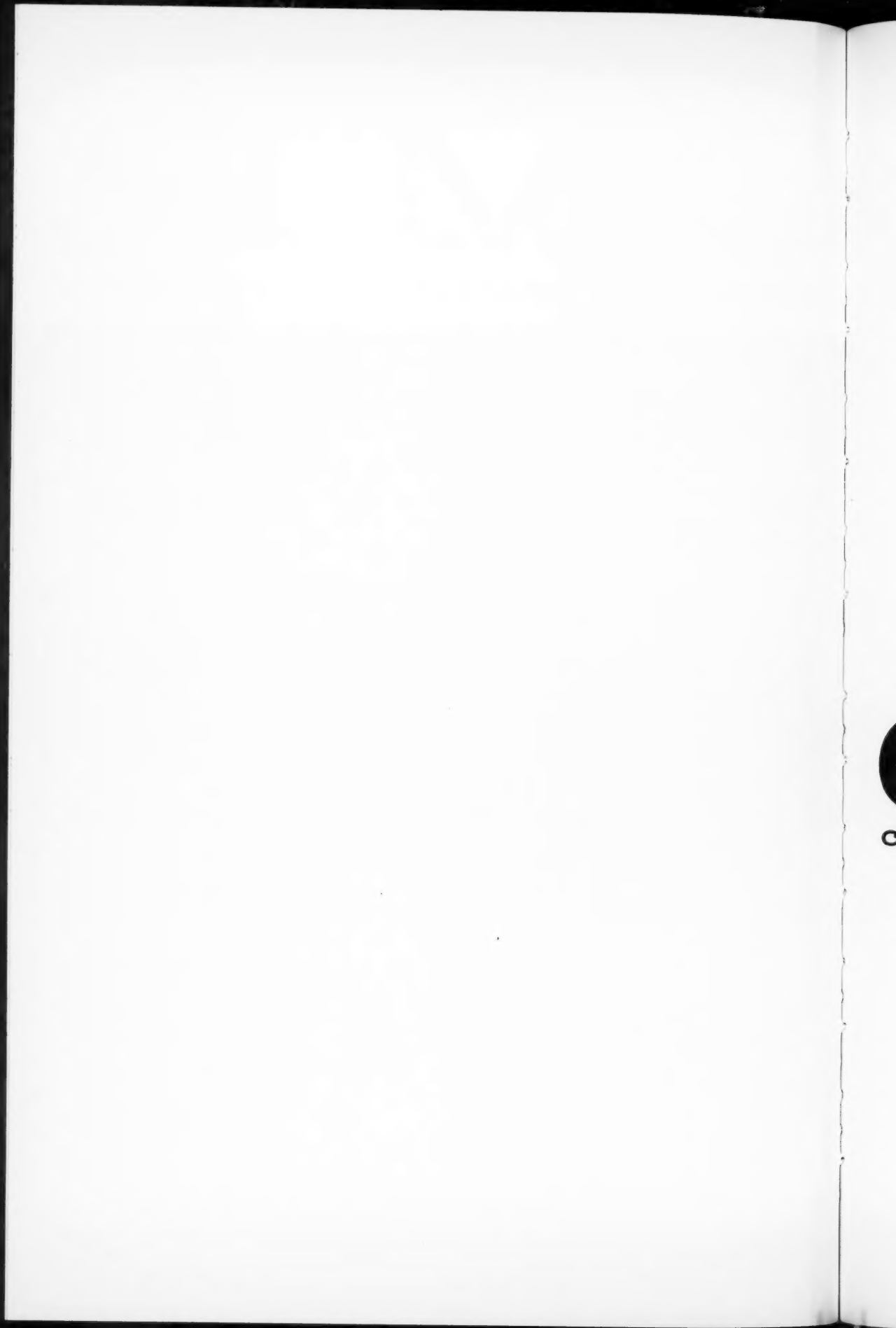


# CMR

california management review





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Volume III, Number 2 Winter, 1961



# **CALIFORNIA MANAGEMENT REVIEW**

*Volume III, Number 2 Winter, 1961*

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### 9 RECESSION OR EXPANSION IN 1961?—A JOINT FORECAST OF THE BUSINESS OUTLOOK AS SEEN BY 23 EXPERTS

The current mild recession has just about run its course and it should be a good year for business from then on, this article, based on the Ninth Annual UCLA Faculty Forecast of the Business Outlook, states. A two percent rise in the GNP, bringing it to an all-time high in '61 is predicted, along with increases in disposable consumer income, stable wholesale prices and a cut in inventories. For the executive who wants to know what lies ahead for the coming year, this article is "must" reading.

• ROBERT M. WILLIAMS, who organized and directed the business forecast reported in this article, is Associate Professor of Business Economics and Statistics and Acting Director, Division of Research, for the Graduate School of Business Administration at the University of California, Los Angeles. He received his Ph.D. in Economics at Harvard University and, prior to joining the UCLA faculty in 1952, taught at Harvard and Dartmouth College and served as Economist for the Federal Reserve Bank of Kansas City.

### 17 THE FUTURE ROLE OF THE CORPORATE PLANNER

The corporate planner, gadfly in the side of progress and sworn enemy of the complacency and love of the status quo which hardens many a big firm's arteries, is moving into the driving seat in many organizations today. For an over-all view of why, how, and the men best fitted to assume such power, see this article.

• CHARLES E. SUMMER, JR., is Associate Professor of Management of the Graduate School of Business at Columbia University, where he is also Faculty Coordinator for the Executive Program. Before he became a teacher he was Manager of Research for Booz, Allen and Hamilton, management consultants. His degrees are from the College of William and Mary, the Wharton School, University of Pennsylvania, and Columbia. He is the author of the book *Factors in Effective Administration* and serves as consultant on organization planning and executive development to private businesses.

### 32 THE JAPANESE WORKER

Labor is not the same the world over and automobile assemblers and steel mill workers in Osaka and Tokyo do not work for the same reasons as their opposite numbers in Pittsburgh and Detroit. There is strong evidence, however, this article reports, that cultural values are a key force which can integrate a group and increase the productivity and job satisfaction of its members.

• ARTHUR M. WHITEHILL, JR., is Reynolds Professor of Human Relations at the School of Business Administration, University of North Carolina. He is the author of two books on human relations in management and many magazine articles. He has served as visiting professor at the Harvard Graduate School of Business Administration and been Fulbright Professor at Keio University in Tokyo where he began the research, just recently completed, reported in this article. It will later be incorporated into a monograph to be titled *Japanese Workers: Gimu in Transition*.

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### INTERNATIONAL INTELLIGENCE FOR THE INTERNATIONAL ENTERPRISE

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Business intelligence is no cloak and dagger affair, but the penalties for inaccuracy or misvaluation can be equally grave in these days of seething nationalism and expropriation. For that reason companies operating abroad need an intelligence officer to keep them posted on developments. Often he is, or should be, one of the smoothest members of the firm. This article tells how to pick him, train him, and use him to advantage.

• JOHN J. BEAUVOIS, an Associate with McKinsey and Company, Inc., international management consultants, is a specialist in the field of international business. Educated at the University of Paris and the Harvard Graduate School of Business Administration, he has had particular experience in the farm equipment and chemical industries. Before becoming associated with McKinsey and Company, he was with the International Division of Warner-Lambert Pharmaceutical Company, serving at company headquarters and abroad. The day he completed this story for CMR, he enplaned for Paris and another overseas assignment.

### SETTING SALES QUOTAS 47

Quotas, a frequent bone of contention between management and its sales force, need not be set haphazardly, if the marketing manager sets them in accordance with the principles of scientific management. In this article the author reveals some statistical weapons which many firms can use in their marketing plans.

• DONALD R. HERZOG is a senior military market analyst for Texas Instruments Incorporated. His job titles have included those of marketing analyst for the W. A. Scheaffer Pen Company, manager of marketing research for Aro Equipment Corporation, and marketing specialist for Solar Aircraft Company. He received his doctorate at the State University of Iowa and has taught marketing management at several universities. He is the author of a forthcoming book about labor relations in the maritime industry.

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### **53 THE POPULATION EXPLOSION—ITS IMPLICATIONS FOR BUSINESS**

Though the skyrocketing birthrate may gladden the hearts of bassinet and baby food manufacturers, it is also a gloomy statistic for business to reckon with in the years to come as living room becomes scarcer and the number of dependents far exceeds the number of working adults. Its implications, both menacing and beneficial, are sketched here.

• **JAMES GILLIES** is Assistant Dean of the Graduate School of Business Administration, University of California, Los Angeles, and Associate Professor of Urban Land Economics there. He is an authority on housing, author of four books and over a hundred articles for popular magazines and scholarly journals on the subject. Dean Gillies is an advisor to the Housing and Home Finance Agency and the Antitrust Division of the Department of Justice in Washington, D.C. He is also Economic Advisor to the Building Contractors Association of California.

### **61 STOCK DIVIDENDS ARE LEMONS, NOT MELONS**

There are easier ways to reduce surplus and keep the stockholders happy than by declaring stock dividends, this author states and shows, using a true case history of a recent stock dividend declared by a "name" firm to prove it, how much it costs the issuing firm and the "lucky" stockholder to take part in such a deal.

• **STEPHEN H. SOSNICK** is Assistant Professor of Agricultural Economics at the Davis campus of the University of California. He has taught economics at Princeton University and is the author of a number of magazine articles dealing with price theory, marketing and other aspects of economics. He is a graduate of the University of California at Berkeley, where he received his bachelor's and doctor's degrees.

### **83 HOW MANAGEMENT CAN USE THE IMPROVEMENT PHENOMENON**

Defense corporations, and others with the resources to do so, have long used the Improvement Phenomenon to estimate markets and price their products. Here is a blueprint as to how it is done.

• **JOHN G. CARLSON** is an Assistant Professor of Industrial Management at Stanford University. He received his Ph.D. in Engineering at the University of California, Los Angeles, where he was also a Lecturer in Production Management and Research Associate at the Western Data Processing Center. His specialty is Industrial Engineering.

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### MANAGEMENT IDEOLOGY: MYTH AND REALITY 95

What is management's first obligation—to earn a profit or promote social progress? Back in the days of Adam Smith, there was only one answer to this question. Today, management often has to give a qualified answer. When the twin loyalties conflict, there is strain on the management role and stress for the individual. What to do about it? The author suggests some answers.

• THOMAS A. PETIT is Assistant Professor of Marketing and Assistant Dean for Undergraduate Student Affairs of the School of Business Administration at the University of California, Los Angeles. This article on management ideology, its folklore and its truths, came out of his experiences last year as a Ford Foundation post-doctoral fellow in the Department of Social Relations at Harvard University.

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## RECESSION OR EXPANSION IN 1961?

A JOINT FORECAST OF THE BUSINESS OUTLOOK AS SEEN BY  
TWENTY-THREE EXPERTS

ROBERT M. WILLIAMS

*Prediction for '61: The recession is on its way out. Recovery should occur before midyear, and from then on the track is clear and business has the green light for expansion. By the end of 1961 the American economy should reach a new high with a GNP of 514 billion dollars for the year. This is the collective opinion of twenty-three economists and authorities on business whose forecast of the shape of things to come in the business world is printed here with substantiating data and figures.*

1961 should be a good year for business. The current mild recession, legacy of the waning quarters of 1960 will shortly be a thing of the past and there is every indication that soon, definitely during the first half of this year, production and trade will pick up and expansion will once again become the normal pattern of business activity.

For the year, we can expect an increase in the Gross National Product of at least two percent over last year, thus setting a new all-time high for the American economy. Look for the green light about May or June, but look out for several soft spots, namely a decrease in gross private domestic investment which may hold back outlays for new plants



and equipment, lower corporate profits, some rise in unemployment, and a continued increase in consumer price levels of about one percent.

This generally optimistic forecast, which takes into full account present conditions as well as the recent erratic behavior of the stock market, is the collective opinion of 23 members of the faculty of the Graduate School of Business Administration at the University of California, Los Angeles who participated in that institution's Ninth Annual Faculty Forecast of the Business Outlook for 1961.

For more than eight years, this group has, at year's end, analyzed the state of the economic health of the nation and predicted the shape of things to come in the business world. To date it has had an excellent "batting average" for accuracy. Its forecasts, published each year since December 1952, have proved to be close to the actual figures published a year later.

In all but two years, this margin of error in predicting total economic activity has been on the side of understating rather than overstating what actually happened. (A year-by-year scoreboard of predicted and actual figures is given in Table III which accompanies this article.) In each year of its existence, the forecast has successfully predicted the direction of change in total business activity for the year in question.

### 1% Consumer Price Rise

This year's forecast group agrees that half of the predicted two percent increase in the GNP will result from the effects of price increases. However, the remaining one percent will represent actual new production which must be chalked up as a net gain for our economy.

Other bright spots in the picture, as forecast, are a rise in disposable consumer income which will be reflected largely in purchases of nondurable goods and services; greater availability of mortgage credit,

which will result in 50,000 more new housing starts than last year, and strong signs that this will be a very good year indeed for automobile sales. The forecast estimates that some 6.5 million passenger cars will be built.

While consumer prices will continue to rise about one percent during the year, wholesale prices are expected to remain steady and there will be a cut in inventories of about a billion dollars.

Less favorable elements in the business outlook for 1961 are the expectation that unemployment will be greater in 1961 than in 1960, due to the fact that the gain of one percent in real GNP is not enough to absorb normal additions to the labor force. Also, industrial production, as measured by the Federal Reserve Board's Index, will probably rise only one point from 108 last year to 109 in the coming year.

### Lower Profits

There is the prospect of lower corporate profits which will doubtless hold back outlays for new plants and equipment. The gross private domestic investment is expected to drop and no significant rise in this component of investment should be anticipated before 1962.

The all-important area of government spending is expected to jump five billion dollars in 1961, but four-fifths of the increase will be at state and local levels. In spite of the change in administration it is felt that the federal budgets for fiscal 1961 and 1962, which were made up by the Eisenhower administration, will not be increased substantially.

### Stock Market Gyration to Continue

The stock market will probably continue its erratic course, the forecast concludes, adding that the spread between the coming year's high and low points is apt to be in the neighborhood of 110 points. The forecasters do not believe, however, that the Dow-Jones

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TABLE I  
SEVEN ECONOMIC SERIES 1956 TO 1960 AND FORECASTS FOR 1961

Series	Actual				Estimated 1960	Forecast 1961	
	1956	1957	1958	1959		Median	Range
1. Gross National Product (billion dollars).....	419	443	444	482	504	514	500-525
2. Federal Reserve Board Index of Industrial Production (ad- justed, 1957 = 100).....	99	100	93	105	108	109	103-112
3. Private Housing Starts (million).....	1.3*	1.2*	1.3*	1.52	1.25	1.3	1.24-1.60
4. Automobile Production (million).....	5.8	6.1	4.2	5.6	6.7	6.5	6.0-7.2
5. Wholesale Price Index (1947- 1949 = 100).....	114.3	117.6	119.2	119.5	119.4	119.8	117-122
6. Consumer Price Index (1947- 1949 = 100).....	116.2	120.2	123.5	124.6	126.5	127.8	125-130
7. Dow-Jones Average of 30 In- dustrial Stocks—High.....	521	521	584	679	685	670	580-705
Low.....	462	429	437	574	566	560	480-590

\* Estimated.

average of 30 Industrials for 1961 will drop more than a few points below the lows established in October 1960.

These are the highlights of the Faculty Forecast for 1961. Twenty-three men participated in the undertaking and the group includes experts in economics, real estate, finance, production, accounting and the stock market. One member has served on the President's Council of Economic Advisers; two others have been senior staff economists for the Council; some have held national and state government planning posts; many have acted as planning advisers to private corporations; most are authors of books and monographs on their special subjects and all are members of the faculty of the Graduate School of Business Administration at the University of California, Los Angeles.

Their names are Theodore A. Andersen, Elwood S. Buffa, Albert B. Carson, Fred E. Case, David K. Eiteman, Benjamin Graham, Leo Grebler, James R. Jackson, Neil H. Jacoby, Raymond J. Jessen, Fred Massarik, Wayne L. McNaughton, A. N. Mosich,

Frank E. Norton, George W. Robbins, R. Thayne Robson, John Shelton, George A. Steiner, Robert Tannenbaum, Roger B. Ulvestad, Jr., Fred Weston, Robert J. Wolfson, and the author.

At a meeting of the group in November individual predictions were submitted. As director of the project it is my responsibility to collate this data, take the median average and present it as the Faculty Forecast. As spokesman for the group I have been asked to discuss our methods of work and measurable results.

#### Seven Economic Series Used

Our predictions deal with seven economic series—the Gross National Product, Federal Reserve Board Index of Industrial Production, Private Housing Starts, Automobile Production, Wholesale Price Index, Consumer Price Index, and the Dow-Jones Average of 30 Industrial Stocks. In Table I, printed here, we present actual data for the years 1956 through 1959, estimated data for 1960, and our forecast for 1961.

Each forecast represents the average (median) of the separate forecasts made by each individual participant. The range of the 23 different predictions is shown in the last column of Table I.

As the table indicates, the Gross National Product (GNP), which measures the value of the total output of goods and services in the nation, is expected to rise from 504 billion dollars in 1960 to 514 billion dollars in 1961. The range of the 23 individual forecasts for GNP is from 500 to 525 billion dollars. The median forecast indicates an increase of 10 billion dollars or about 2 percent over the 1960 figure.

This increase is substantially less than occurred in 1957 and 1959 but exceeds that of 1958 during the last business recession.

About one-half of this expected increase in GNP will result from the effects of price increases. Hence, the physical volume of output of goods and services will increase only about 5 billion dollars or 1 percent.

This is not enough to absorb normal additions to the labor force, and therefore, unemployment will be greater in 1961 than 1960. A more detailed analysis of the trend in GNP and its components during 1961 is given in Table II.

### Industrial Production

The Federal Reserve Board Index of Industrial Production—which measures changes in the physical volume of output in the manufacturing, mining, and utilities industries—is expected to average 109 in 1961 compared with 108 in 1960. This increase is compatible with the 1 percent expected increase in GNP in constant prices.

### Residential Construction

Total private housing starts are expected to be 1,300,000 in 1961—an increase of some 50,000 over last year—but this number is considerably short of the 1,520,000 dwelling units started in 1959. Vacancy rates in existing housing have been higher in recent

months than any time in the postwar period, and this is an important factor in the currently depressed level of residential construction. Mortgage credit, on the other hand, which was another factor limiting residential building in 1960 is expected to be more abundant in 1961.

### Automobile Production

In 1960, more passenger cars were produced in the United States than in any previous year except 1955 when output was 7.9 million. Another very good automobile year is expected in 1961, and the median forecast is for an output of 6.5 million passenger cars. In contrast to the present situation in which the economy is expected to receive strong support from the automobile industry, in the 1958 recession automobile output declined to 4.2 million, the smallest number since production was resumed at the end of World War II.

### Wholesale Prices

Despite fluctuations in the price of some component products, the average wholesale price level has been stable for the last three years. This stability is expected to continue in 1961, and the median forecast calls for an increase in the Wholesale Price Index of the U. S. Bureau of Labor Statistics of only 0.4 points or about 0.3 percent above the 1960 average.

### Consumer Prices

Unlike wholesale prices, average consumer prices have increased 1 percent or more each year since 1955. This rise is largely accounted for by increases in particular components including rent, transportation, medical care and some other services. The Consumer Price Index of the Bureau of Labor Statistics is expected to continue rising in 1961, and the median forecast of 127.8 represents an increase of 1.3 points or 1.0 percent above the average level for 1960.

The all-time peak of 685 in the Dow-Jones Average of 30 Industrial Stock Prices, reached in January 1960, was followed by a substantial decline, which carried the DJA down to 566 last October. At the time the forecast was made late in November, the DJA was about 600.

The median forecast for 1961 calls for fluctuation between 560 and 670, a range of 110 points. This suggests that 1961 will not record new highs in stock prices, but on the other hand, the low expected in 1961 is not far under that established in 1960.

### Components of GNP

Table II shows the major components of Gross National Product from 1956 to 1960 and projections for 1961 by quarter at annual rates. This model is not meant to be a forecast of events, but rather provides one possible pattern of economic behavior during 1961. The basic assumption made is that

the current business recession will be mild and that recovery will be sufficiently rapid to generate a GNP of 514 billion dollars for the year as predicted in the UCLA Faculty Forecast.

The pattern shown in Table II is similar to that for 1958 when GNP increased slightly in the second quarter and then rose more rapidly in the third and fourth quarters. However, the decline in GNP of 16 billion dollars between the third quarter of 1957 and the first quarter of 1958 was much greater than the decline expected in the current recession. In fact, no significant decline is expected in quarterly rates of GNP during the current mild business recession.

Consumer expenditures, especially for nondurables and services, are expected to increase substantially during 1961. In general, consumption is closely tied to personal disposable income which is expected to increase throughout the year.

Table II  
Components of GNP 1956-1960 and Projections for 1961 by Quarter  
(Billion dollars)

	Actual				Esti- mated 1960	1961 projections				
	1956	1957	1958	1959		Quarter				Annual average
						1	2	3	4	
<b>Consumer Expenditures</b> .....	<b>270</b>	<b>285</b>	<b>293</b>	<b>314</b>	<b>329</b>	<b>335</b>	<b>337</b>	<b>341</b>	<b>347</b>	<b>340</b>
Durables .....	39	40	37	43	44	43	43	44	46	44
Nondurables .....	131	138	142	148	153	156	156	157	159	157
Services .....	100	107	114	123	132	136	138	140	142	139
<b>Gross Private Domestic Investment</b> ....	<b>67</b>	<b>66</b>	<b>56</b>	<b>72</b>	<b>72</b>	<b>65</b>	<b>65</b>	<b>67</b>	<b>71</b>	<b>67</b>
Residential construction .....	18	17	18	22	21	20	21	23	24	22
Other construction, equipment .....	45	47	40	44	48	48	46	45	45	46
Inventory change .....	5	2	-2	6	3	-3	-2	-1	2	-1
<b>Net Exports of Goods &amp; Services</b> .....	<b>3</b>	<b>5</b>	<b>1</b>	<b>-1</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
<b>Government Expenditures for Goods &amp; Services</b> .....	<b>79</b>	<b>87</b>	<b>94</b>	<b>97</b>	<b>100</b>	<b>102</b>	<b>104</b>	<b>106</b>	<b>108</b>	<b>105</b>
National defense .....	40	44	45	46	45	45	46	46	47	46
Other federal .....	6	6	8	8	8	8	8	8	8	8
State & Local .....	33	37	41	44	47	49	50	52	53	51
<b>Gross National Product</b> .....	<b>419</b>	<b>443</b>	<b>444</b>	<b>482</b>	<b>504</b>	<b>504</b>	<b>508</b>	<b>516</b>	<b>528</b>	<b>514</b>

### Private Investment to Drop

Gross private domestic investment is expected to decrease in 1961, although expenditure for the residential construction component will be higher according to the UCLA Faculty Forecast of private housing starts. Other construction (including commercial, industrial, farm and institutional building) and equipment (farm and nonfarm) is expected to decline in 1961 largely because of reductions in expenditure for business plant and equipment.

Reduced outlays for plant and equipment are caused by such factors as excess capacity in some industries, lower corporate profits, and higher borrowing rates. Although these underlying factors may change in 1961, plant and equipment expenditures typically are slow to respond to such changes. Hence, a significant increase in this component of investment is unlikely before 1962.

### Inventory Reduction Expected

In large measure, the postwar recessions in the American economy resulted from fluctuations in investment in business inventories, and the current recession is no exception. Inventories were built up rapidly after settlement of the steel strike early in 1960. For many companies, expansion of sales and new orders failed to justify such large stocks of goods.

Hence, whereas inventories were increased by four billion dollars in the first half of 1960, inventory disinvestment occurred in the last half of the year. Disinvestment in stocks is expected to continue, although at declining rates, through the third quarter of 1961. For the year 1961, it is expected that total inventories will decline by one billion dollars.

Net exports of goods and services, which were negative in 1959 and recovered to a positive three billion dollars in 1960, are projected at the rate of two billion dollars through 1961.

### Government Purchasing

Government expenditures for goods and services are expected to increase in 1961 by five billion dollars, largely because of greater outlays by state and local governments. Since 1958, federal expenditures for goods and services for defense and other purposes have fluctuated between 53 and 54 billion dollars, and the latter figure is the expected federal outlay in 1961.

It is entirely possible, of course, that the Kennedy Administration will propose changes in this spending pattern. However, the budget for the fiscal year 1961 ending next June 30 would be difficult to alter significantly, and the budget for fiscal 1962 is also a product of the Eisenhower Administration. Nevertheless, unforeseen changes in either the domestic or international situation could dictate significant changes in rates of federal spending.

The federal government influences the level of business activity in other ways than through its large expenditure for goods and services. First, some large federal expenditures are excluded from the national product accounts because they do not represent payment for services produced currently.

### Transfer Payments

These outlays—called “transfer payments”—include interest on the debt, unemployment compensation, veterans benefits, and social security benefits. Although excluded from GNP, these transfer payments represent purchasing power which directly affects the level of consumption in the economy.

Second, tax policy does not affect GNP directly, but, to cite two examples, changes in corporation tax rates affect spending for plant and equipment and changes in personal tax rates affect consumption. Therefore, any changes which may be made in the level of transfer payments or in tax rates will affect GNP.

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Accuracy Record

Considering the great hazards inherent in economic prediction, the forecasts of the UCLA faculty have been reasonably accurate, as Tables III and IV prove. Forecasts are made about the first of December for the following year on the basis of existing knowledge of business trends. Most economic data are slow to appear in print, and all forecasts must be based in part on estimates of recent business conditions. As stated previously, the UCLA faculty has correctly predicted the direction of change in GNP each year since the forecasts began in 1952.

Table III  
Evaluation of UCLA Faculty Forecasts  
of GNP, 1953-1960  
(Billion dollars)

Year	Forecast	Actual	Error	
			Amount	Percent
1953	353	365	-12	-3.3
1954	357	363	- 6	-1.7
1955	372	398	-26	-6.5
1956	409	419	-10	-2.4
1957	435	443	- 8	-1.3
1958	448	444	+ 4	+0.9
1959	465	482	-17	-3.5
1960	517	504	+13	+2.6

2.8 Percent Margin of Error

Table III shows the error in the GNP forecasts. In six of eight years, GNP was underestimated by 6 to 26 billion dollars, while GNP was overestimated in 1958 and 1960 by 4 and 13 billion dollars, respectively. In percentage terms, the errors range from minus 6.5 to plus 2.6 and average 2.8 percent over all.

Table IV shows the error in forecasts of seven economic series in 1960. Previous to the 1961 forecast, three series (Industrial production, Wholesale prices, and Consumer prices) were forecast for October of the following year and four series (GNP, Housing starts, Automobile production, and the Dow-Jones Average) were forecast for the year ahead. In 1960, errors of less than 1 percent were made in forecasting the first three series. Although errors were larger for the other four series, all of these are volatile and difficult to predict.

Group Tops Individuals in Accuracy

A final comment seems indicated to explain the use of the median as the best method to obtain a consensus of faculty views on the business outlook. Ideally, perhaps, the faculty should be able collectively to develop a single forecast of GNP and other series

Table IV  
Evaluation of UCLA Faculty Forecast of Seven Economic Series in 1960

	Forecast	Actual	Error	
			Amount	Percent
Series Forecast for October 1960				
Index of Industrial Production.....	107	107	0.0	0.0
Wholesale Price Index.....	120	119.2	0.8	0.7
Consumer Price Index.....	127.0	127.3	-0.3	-0.2
Series Forecast for Year 1960				
GNP (billion dollars).....	517	504	13.0	2.6
Private Housing Starts (million).....	1.29	1.25	.04	3.1
Automobile Production (million).....	6.2	6.7	0.5	-7.5
Dow-Jones Average:				
High.....	700	685	15	2.2
Low.....	600	566	34	6.0



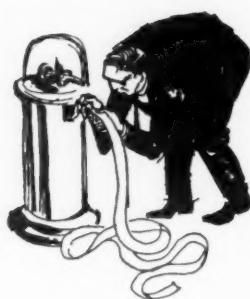
which would be mutually consistent. However, university professors are individualists and resist the give and take necessary to achieve a compromise.

Hence, each faculty member makes up his own mind with respect to forecasts of the seven series, and the median forecast for each series arbitrarily becomes the group forecast.

In practice, the median has served well as an averaging device, and, interestingly enough, the median forecast for 1960 was more accurate than the individual forecast of any of the faculty members who participated.

It appears, therefore, that the collective judgment of the group expressed through the median value was superior to all individual judgments in the group.

In earlier years, one or more individual forecasts have been superior to the group median. However, while the discipline of making explicit forecasts has sharpened the forecasting abilities of most faculty members—and this is the main purpose of the exercise—no individual has emerged who is consistently better as a business forecaster than the group judgment as expressed in the median.



# The Future Role of the Corporate Planner

CHARLES E. SUMMER, JR.

*Breakthroughs in technology and the often overpowering complexity of the corporate structure have spawned a new, versatile breed of managers. Known as planners, their business is change and their eyes must always be focussed on the big picture. Here is a profile of the job and the men who must be part seers, part detective-cost accountants, part sociologists to fill it.*

In the past five years, many companies have established full-time positions which perform a function variously referred to as "top management planning" or "long-range planning." To date, this trend has progressed far enough that the Institute of Management Sciences now has a College on Long-Range Planning. The New York Chapter of this College can today muster, for its monthly meetings, some 30 to 40 men from different companies, whose principal duties revolve around the planning function.

The establishment of these positions, with titles such as director of planning, or manager of corporate planning, represents the creation of a new role in the hierarchy of many U. S. corporations. It is my purpose to look more closely at this role or position, and ask:

- What is its function in the organization as a whole, and why has such a position evolved?
- What work duties and behavior are required to carry out this function?
- What qualities of mind are required if the planner is to function in the organization, behave successfully as an individual, and carry out the relationships required?

In considering these questions, I shall examine the present state of affairs, and hazard some predictions of things to come.

Charging someone in the organization with responsibility for planning is not a new idea, either in American business or in other types of organizations. Historically, whenever large complex organizations have committed themselves to courses of action which could not easily be reversed without serious consequences, there have been people doing long-range planning. This was equally true of the campaigns of Alexander the Great, the construction of Rheims Cathedral, Harri-man's building of the Union Pacific Railroad, and the U. S. Government's participation in World War II.

In American business, so-called line executives have always been forced to do long-range planning, with the aid of staff specialists, each doing planning work in his own area—manufacturing, engineering, marketing, personnel-manpower, and so on. It is not even entirely new to find someone assigned the role of "generalist type" planner, who is not a line executive, and yet who coordinates the information on plans from all line and all specialized staff departments.

For example, men with titles like "Assistant to the President," or "Executive Vice President Administration," have been concerned, at least on a part-time basis, with the general coordination of long-range planning throughout the whole company system, bringing together information from both line and staff departments. In some companies,

through custom and because of qualifications and interests of incumbent officers, capital budget and product development departments have had the same approximate kind of duties as our "managers of long-range planning" do today.

### Line and Staff

These positions have not been different from the long-standing practice of the military to install general staff men to coordinate plans of the various specialists such as supply, personnel, operations and intelligence. In fact, the general staff role in the military very closely approximates what is happening in American business today: that is, the relief of the line executive from much of the planning, by a person who integrates the whole organizational system, rather than plans only one of its specialized parts.

Because the military has had to move quickly as a coordinated whole, and because its organizations were so big and complex, it long ago was forced to establish such a role. These two things are, in my opinion, ones which are operating along with others in American business today as underlying causal factors in the establishment of positions such as "manager of planning," "director of long-range planning" and the like.

What is new, then, is the creation of positions in many corporations which are assigned planning as their full-time activity, which do not combine planning with other staff functions, which are "generalist" in the sense that they integrate information from all other organizational units in the system, and which are not viewed as line executive positions.

At this point, I would like to describe in general terms the function of management planning in an organization. It is, first, that function which establishes goals, for all parts of the company, in terms of results to be accomplished and at the same time allocates physical, human and financial resources

throughout the company to attain those goals.

This is a very general statement—almost meaningless because it covers such a vast and complex system. It implies the "coordination" of goals and resources for hundreds of thousands of individual physical items and human beings. It also implies both coordination at any one point of time, and coordination in a time series, so that the achievement of certain goals becomes the means to more distant goals. In later parts of this article, I will try to make more explicit what is involved in the establishment of the goals, and allocation of resources, in a complicated managerial system.

### Function of Planning

Secondly, top management planning has the function of initiating change of the total company system, moving forward as a coordinated whole, in an evolutionary sense, in response to changes in the environment (technological, social, economic, political) in which the company must survive, grow, or decline. It insures some speed of change in the company, overcoming the static forces that result from technological habit, red-tape types of bureaucracy, and what I shall later call technological and institutional commitment.

As I view U. S. society, its government, and corporations, over the last thirty years, I see in fact an increase in the importance of the planning activity which must be done. This in turn has meant an increased number of man-hours devoted to planning in business organizations. The establishment of planning positions in companies is simply one of the visible outgrowths of this increase in importance of the function and its concomitant requirement for more manpower devoted to the activity.

These three things—increased importance of the planning function, increased manpower being devoted to planning, and an increase in the number of planning positions—



are phenomena to be explained. I am not, in this article, saying that we should have more planning activity. Rather, I am saying, "We in fact have experienced these things over the past thirty years." It is not a question of moralizing as to whether more central planning is "good" or "bad." It is simply that, whether we like it or not, planning is becoming more important, and this importance is reflecting itself in the organization structure of our corporations.

If we can isolate the underlying causal factors which have brought about the evolution of separate planning departments, these will allow us to predict the future of such roles and departments and to speculate about the qualifications of men who fill planning positions.

### Growing Importance

These causal factors, which I shall discuss separately in the remainder of this article, are as follows:

1. The increasing complexity and interdependence of the planning system.
2. The increase in planning work brought about through divisionalization.
3. The speed with which organizations must innovate new procedures as a coordinated system.
4. The static forces which are generated by technological and social commitment, and which oppose change and innovation.
5. The technical competence and knowledge required to do an effective planning job.

### Technological Complexity

The first factor which has important implications for long-range planning departments is the increasing complexity and interdependence in the system to be planned.

A system may be thought of as a number of variable parts, each of which is dependent on the other. That is, when one part changes, this affects other parts, and there is a chain reaction throughout the whole system. I view

the internal part of the corporate system as a vast complex of three sub-systems of variables.

### Three Variables

First, there are technological variables. This system includes everything from quality control, equipment type and layout, production line layout, to plant location. It also includes advertising, pricing, product characteristics and distributive facilities in marketing; and a host of sub-parts in personnel relations and manpower development. It would include all facilities for product and process research. Finally, it would include the sum total of the policies, procedures and methods which the company has worked out to pass semi-finished parts and paper work from one person and department to another.

A second part of the internal corporate system is composed of social variables. This sub-system is composed of a large number of human beings, each with different characteristics, often bound together in informal groups. It is also composed of a number of globs of human effort which we call departments and divisions. Each person, and each department, has a specialized and unique set of activities, with special knowledge and skills required to perform the work.

A third sub-part of the internal corporate system is composed of economic or financial variables. Money costs, and money prices, are attached to every single part of the technological system and the social system.

### Interrelated Key Factors

Very few people have ever attempted to catalog how many major operating parts there are in a typical large corporation. E. G. Booz, in his management consulting work, developed what he called "seventy key factors" in the operation of a company. Austin Grimshaw, Dean of the Business School at the University of Washington, arrived at about fifty key parts in the system. Now, assuming that each of these is related to

every other, so that a change in one sets off a chain reaction in all others, I estimate that there are somewhere between 50! and 70! relationships which may have to be considered in making any one important long-range management plan.<sup>1</sup>

In addition to the internal operating variables in the corporate planning system, there is also an external system of variable factors to be considered. These factors do not appear in the legal organization system of the corporation, but they are in the planning system.

Here are a few examples among hundreds that could be cited: the entire range of government laws; regulations and tax levies; the many customs and norms of society; the number, type and quality of items purchased from other companies; the prices charged on purchases; the supply and cost of borrowing money; the quirks of men who head various money lending institutions; the state of the economy in terms of both cyclical and growth indices; the power and personal characteristics of labor union leaders; the quantity and characteristics of the labor force; the efficiency and desirability of different wholesale and retail outlets, and so on.

### **Complexity Fosters Planning Role**

It was this type of complexity in the total planning system which contributed to the establishment of more and more traditional staff departments, each doing planning on one segment of the system and reporting to a line executive (perhaps the president). Personnel vice presidents investigated manpower, labor organization, productivity and so on. Treasurers investigated money supply, lending institutions, credit costs, etc. Headquarters engineering or manufacturing staffs looked at changing processes, quality standards, plant locations and the like.

As technology, the U. S. economy, the financial structure of the country, and other parts of the culture (e.g., labor unions) be-

came more complex, the ability of the chief line executive to comprehend everything his specialist planners told him was exceeded in many large corporations. Furthermore, even if he were technically competent, the sheer number of man-hours necessary to integrate this diverse information could exceed all of the hours in a working day.

The next step, which generally occurred in the period 1940 to 1950, was to establish super staff positions—generalist planners sometimes given the title “assistant to the president” or “executive vice president-administration.” These men received summary information from the specialists, and fitted together long-range goals and resource allocations. The total planning activity was thus divided between abstract planners (sometimes referred to as integrative planners) and more specialized planners, such as manufacturing, personnel, marketing, financial, and research executives.

### **What's Going to Happen Next?**

I predict that the diversity of operations within most companies, due to technological progress, will continue to become more complex. I also believe that society and the economy, representing external variables in the planning system, will become more diverse and complex. What implications does this have for the planning role in corporations in the United States?

1. For medium sized companies, there will probably be more generalist planning positions established. These may combine all top management planning, both “short-range” and “long-range” and may have titles such as “assistant to the president,” or “vice president, administration.”<sup>2</sup>

2. For the large corporations, there will probably be more staff positions created which are specifically devoted to long-range planning and given titles accordingly.

3. For governmental organizations, I see more central planning, whether we

like it or not, since society is becoming more and more complex, and the parts of the total social system are becoming more interrelated.<sup>3</sup>

4. For the selection of men to fill the planning positions, complexity means that planners must have been exposed, in their experience, to a wide variety of company operations. Only men with relatively long longevity, and broad experience in the company will have the random pieces of knowledge of internal variables stored in memory, which are necessary to make sense out of the abstract summary information they must receive from all parts of the system.

5. The men who fill the planning positions will also need a wide variety of knowledge about the structure of U. S. society. Not a detailed knowledge of business cycle theory—or population statistics or labor union tactics—but he should at least be acquainted with the structure of society and some of its many sub-parts and processes. This, to me, suggests a fairly good grounding in macroeconomics, sociology, history, and the philosophy of culture.

6. Generalist type planners must also communicate with many different other departments, in rapid-fire succession, and inspire trust on the part of other executives. Since communication with other humans is one of their principal research methods, this means in common terms a gregarious type of individual. It means a person who has a degree of social skill, a degree of "other directedness," and a trusting, rather than a suspicious or fearful, view of the world. It also means selecting a person who has what the applied anthropologists call a high degree of interaction energy. Simply stated, this means that the man can sustain himself in a wide variety of social contacts, with high frequency and long duration, without losing his interest or propensity to communicate.

### Divisionalization Creates Jobs

A second factor which has important implications for the planning activity is the current trend in organization structure commonly called decentralization, but, I believe, more accurately called divisionalization. This type of structure is characterized by "divisions" of a company, each forming a relatively self-contained internal planning system, such as the Chevrolet Division of General Motors. It is also characterized by a new kind of planning at company headquarters which is more abstract or summarized, but which nevertheless sets goals and allocates resources among the various self-contained planning systems. It is interesting also, that the goals and resource allocations made at company headquarters, when viewed from the division manager's position, are parts of the division's external planning system.

It is my belief that what appears from one viewpoint to be decentralization of authority for planning detail, actually results in the creation of more planning work to be done, and a greater degree of central planning. This structure of organization also increases the man-hours of planning to be done in the whole company organization, and may cause the creation of new positions or roles devoted to central planning.

Why does divisionalization result in greater amounts of planning activity in a company, and a greater degree of central planning? The answer lies in the fact that the resulting company organization permits a larger and more complex internal planning system to be created within the legal organization system which we call a corporation.

The company's goals are still set as usual, but there is a bigger job of allocating diverse resources. Note that increased size may also affect the size of the planning job. But mere inclusion of more complexity in the resource allocation system can mean more man-hours of planning required, and so can the creating of more layers of planning.

### Mergers Create Planning Jobs

Divisionalization can come about in two ways. First, it may evolve by taking a previously functionalized company organized in major divisions of manufacturing and sales, and regrouping the activities by product or territory (as in General Motors). (This is what is commonly called "decentralization.") Or, secondly, divisionalization may come about by merger or acquisition of smaller planning systems, bringing larger amounts and greater diversity of resources under the planning of one corporation; as in Textron, General Dynamics, Philadelphia and Reading, and Texas Instruments.<sup>4</sup>

In either case, the resulting organization structure is similar in that more diverse resources, and perhaps greater amounts of resources, are brought into the internal planning system of the legal corporate organization. The principal difference in the two types of divisionalization is that, when it occurs through merger, this increase in size and complexity of the planning system occurs in the short run while in decentralization it is less evident, and occurs in the long run.

Let me illustrate the merger or short-run case with a brief case history of Texas Instruments, Inc. In 1959, Texas Instruments acquired the Metals and Controls Corporation of Massachusetts. As a division of Texas Instruments, essentially the same kind of planning and amount of planning must be carried out in M. & C. as previously, but the goals toward which M. & C.'s resources must be allocated are now the goals of the Texas Instruments Corporation. Consequently, someone at the corporate level, who owes no allegiance to any one division, and who has a knowledge of what other divisions are doing, must help to integrate the allocation of resources in M. & C. with those of Texas Instruments.

One of the first things that the T. I. management did, almost immediately, was to reorganize the Metals and Controls Division

into tertiary planning systems, each relatively self-contained. Thus, the General Plate Division, the Spencer Thermostat Division, and the Nuclear Division were created, each with a general manager.

Now stand back for a minute, and look what has happened in the space of a few months, and with little change in the sales volume or assets of the Metals and Controls system:

- A larger planning system has been created in the Texas Instruments system—a greater complexity of manpower, different materials, and a diverse set of fixed capital must now be allocated in this system. New and different skills, personalities, raw materials, buildings, and machines, must all be taken into account when setting a course of action for the whole corporation. It is my belief that the increased complexity and time required for planning work is more than proportionate to the increased sales of the total company. Thus, the traditional measures of "bigness"—assets and sales volume—are not good measures of the man-hours of planning which must be added in a merger.
- The ability of the President of Texas Instruments to plan, at any but the most abstract level, may be exceeded by the addition of more diverse resources which must be coordinated. Yet someone must fit M. & C. manpower, capital equipment, money expenditures into the scheme of T. I. goals.
- Part of the same effects are true at the next level. Mr. Vetter, the General Manager of M. & C., does not have any greater quantity of resources, or greater diversity of resources, in his planning system, than did the former president of the independent corporation. But he has now pushed a certain amount of planning detail down to the Spencer Thermostat Division. There is conse-

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quently a new role of summary planning which must be performed at the divisional level. As the division grows, a point may be reached at which the division manager must also delegate this function in part to a planning department.

### Planning Hierarchy

What does this mean in terms of the duties performed, and the qualifications, of the planner? First, it means that the planners in the lower systems will be the ones who have a bent for empirical investigation and detail. You have seen some men who prefer to be thorough, working a problem through with precision, utilizing many facts and tables.

Second, the planners in the upper (and larger) systems will have to be a different breed of cat. They are the deductive thinkers, rather than the empirical investigators, whose mental predisposition is more like a philosopher than an empirical scientist. They will have less patience with facts, and a higher tolerance of ambiguity, otherwise their minds will be unwilling to take the risk of making decisions with broad, less precise (and what appears to the scientist as ambiguous) variables.

I also believe that the higher level planners should have I.Q. scores in a range which could be described as "bright, creative, and intelligent," rather than in the higher ranges which could be described as "brilliant." Too much brilliance would result in the man's insisting on too much evidence and validity, both as to deductive reason and empirical fact, before the corporation could move forward with timely and speedy action.<sup>5</sup>

A second way in which divisionalization may come about is not through merger, but by re-grouping the globs of human effort and physical resources, which we call divisions, into product or territorial planning systems. In the Texas Instruments example above, divisionalization of the Metals and Controls

Division (the first echelon under the President of T. I.) came about through merger, but the divisionalization of Spencer Thermostat (the second echelon under the President of T. I.) came about through a re-grouping of existing resources and goals. This is a well-known trend in U. S. corporations, as exemplified by such companies as General Motors, DuPont, Johnson & Johnson, Massey-Ferguson, General Foods, I.B.M., R.C.A., Westinghouse, and many others.

In the merger case, both more diverse resources and a greater absolute quantity of resources were immediately, in the short-run, brought under the planning sphere of the Texas Instruments goals, and were subsequently allocated toward this central set of goals.

### Positions Via Decentralization

In the decentralization case, the same effects are indicated, except that they will come about only in the longer-run, and will be caused by a growth of the company and of the economy. For example, after the 1957 re-organization of the I.B.M. Corporation:

1. We might have expected that there would have been an absolute growth in the quantity of resources allocated toward the top goals of the I.B.M. Corporation. The decentralized form arose in the first place because it was impossible for one human mind, or group of minds, at the top to comprehend and allocate such a large and diverse aggregate of resources, with the result that there was a limit put on the size of the firm. There was also a limit in the degree to which headquarters could change the behavior of such a large institution which was interlocked so intricately in quality and timing of work of the specialized parts. Now, with the decentralized form, that limit is extended.

The degree to which more and more absolute amounts of resources can come under the allocation of one corporation's central goals cannot be disproved by

statistics which show that there is little increase in the relative proportion of wealth accounted for by large corporations. The percentage of national income or GNP accounted for by General Motors may not increase. But as society grows in total, the absolute dollars of capital investment or the absolute number of people employed by G.M., might well increase considerably in the decentralized form of organization, in the long-run.

2. We might also expect that there will be an increase in the technological and social complexity of the resources which are allocated toward the corporation's goals. As science, product design, and the social structure of government and society become more complex, this will add to the amount of central planning which must be done. Therefore, quite independent of the "long-run size effect," we also have a "long-run complexity effect."

3. We might also expect a short run increase in the planning which must be done. Decentralization actually creates a new planning level in the corporation. Whereas formerly details of planning were handled at headquarters by one set of staff people, we now have two planning jobs to be done. An abstract or summary set of resource allocations must be done at the top to coordinate the divisions, and a more detailed set of resource allocations must be done within the divisions. This gives rise to a third underlying cause of increase in planning work to be done in decentralized companies—the "level effect."

### Speeds Integrated Changeovers

The next major factor which I see as having important implications for the planning role in business is the speed with which the entire corporation must move forward or change, as a coordinated whole, throughout all its complexity, in response to changes in its environment, or in pursuit of deter-

ministic goals which in fact change the environment.

Let us suppose that you go on a fishing trip to Florida with six friends. None of you has been in Florida before, and none has been on the kind of boat required, or caught the particular fish which is your goal, or used the type of equipment needed. Beforehand, there are many arrangements necessary—car routing, spend-the-night points, arranging luggage in the car, motel reservations, and the like. Then during the trip there are many shorter-range plans necessary—where to stop for lunch and gas, sequence of unloading the baggage, selection of the charter boat, negotiations with the captain, purchase of provisions, and so on.

If there exist no one or two central planners or information centers, coordinating what the group is doing, each of these decisions will take a long time, and there will be much hashing back and forth. (Of course, if you are a group of retired executives, you may have leisurely committee meetings at lunch over a four-month period, engaging in true "group dynamics." Then you may make a leisurely drive to Florida, stopping during more long lunches to discuss what you will do next.)

If there is anything that study of small group dynamics has taught us, it is that the emergence of courses of action, and the emergence of "natural leader-planners," takes great amounts of time."

On the other hand, if your fishing trip is to be accomplished in a limited time, some central planning, by someone, is a necessity—even if that person does not have authority and power, but merely acts as an information initiator and integrator between sub-parts of the action system.

While this is true of a small group, it is absolutely vital in a larger, complex and impersonal organization, where one department has a difficult time knowing what others are doing, and where great amounts of time are required to start at the bottom

of the pyramid; having workers thrash out their ideas and report to the foreman, foremen thrash out their ideas and report to the factory manager, factory managers meet and report to the manufacturing vice president, all vice presidents meet and work out plans with the president, and so on.

What I am saying is, the greater the speed with which organizations must act as an integrated whole, the more man-hours must be devoted to some form of central planning. The time devoted to planning, and the number of personnel involved, vary with the speed of coordinated action.

Of course, there are times when greater speed is achieved without central planning. For example, when one division of G.E. is more acquainted with operating facts and local conditions than headquarters, decentralization of planning to the divisions increases speed of movement. Note, however, that this is speed of one sub-system moving as a unit, and it assumes that the divisions do not affect other divisions of the company in their actions. Whenever the General Electric Company as a coordinated whole must innovate and change, greater speed is achieved by central information clearance and central planning. This is precisely the most important reason for the controversy, since Sputnik, over the organization of the Defense Department and the nation's space program.

### **Takes Planning to Speed Up**

Let us look at what is happening to speed of change required of American corporations. The breakthrough in technology is the most important reason why this speed of change is increasing. New processes and new products by some companies, force their competitors to get busy and introduce major changes, affecting all segments of the company, in a limited time or else. We see this particularly in the chemical, electronics, and allied industries.

But we see it also in some industries that

are considered stable and conservative. Banks are an example, where development of new consumer loans, opening of branches, introduction of data processing, and offering new services, are forcing some top-to-bottom innovation in large banks as well as small. Insurance companies are another example, where the innovations and "bombshells" of a few companies have caused some other companies to form long-range planning groups, to deal with long-term innovations.

### **Bosses or Consultants?**

What I see in the future, growing out of great dynamic changes in industry, is two different kinds of staff roles at company headquarters, depending on whether the company must move swiftly or relatively more slowly in changing its operations.

For the companies and industries where fast change is vital, I believe we will see greater centralization of the planning role, and in some cases the staff men will be given official authority, rather than held only to an advisory status.

It is significant in this respect that the new planning department heads in the divisions of I.B.M. are given "the right to demand" planning information from the division managers. Furthermore, in the industry with swiftly moving change, perhaps the staff planners must be selected with slightly different characteristics than in other industries. They may turn out to be more logicians, thinkers and rational beings, concerned more with the necessities of change, than they are concerned with social skills and committee meetings.

On the other hand, in those companies where change is less frequent and drastic, and where the company lives a more comfortable life, not bombarded so heavily or frequently from the environment, I foresee that planners will continue to be advisors. They will elicit help from the divisions more through social skills than through status as possessors of broad knowledge of current

conditions, and status as skilled problem solvers and logicians.

### **Commitment Time**

The next major factor which I see affecting the role of professional planners is the commitment time involved in major decisions. We have all seen frequent references to the fact that labor unions, guaranteed annual wages, the increased size and expense of capital machinery, and the length of time required to research and develop new products—all mean that companies must take actions today which commit resources for longer periods of time. This, in turn, calls for more long-range planning to avoid the costly prospect of having to maintain a partially idle labor force, abandon the development of non-saleable products, or write off obsolescent plans and equipment. Since this subject is so well covered in management literature already, I will not deal with it further.

However, there is another kind of commitment which has not been given much attention, and which has an important bearing on how much top planning must be done, and what the role of planners will be. This can be called sociological, institutional or organizational commitment.

### **Institutional Commitment**

In simplest terms, institutional commitment is what is meant when we say that a company has grown big and inflexible, that it is tied down to routine, and that it is difficult and slow to change. Robert Merton, the sociologist, lists two of the dysfunctions of a bureaucracy as first, inflexibility under changing conditions; and secondly, the substitution of means (that is, the existing procedures and policies) for ultimate ends (goals of the company).<sup>7</sup> Another way of saying this is that large organizations tend to remain in habitual ways of motion, until some force stimulates them to change direction, and to change the whole vast structure of policies, procedures, methods and sub-objectives.

To me, this has important implications for the role of the planner in business. There are two kinds of forces that can stimulate organizations to change: one is an outside force, generated by other organizations, by nature, or by technology. The second kind is the internal, deterministic ideas of men inside the organization.

The larger organizations get, the more they need men who have the time and capability, and interest to watch the external forces of technology, other organizations, and nature, and think through their implications for the company as an organization which must adapt to its environment.

Similarly, the larger and more complex organizations become, the more they need men who influence them through the power of new ideas. There is an old controversy in the study of history which poses the question, "Do the times make the man or do men shape the times?"<sup>8</sup> There is no answer to this question—organizations do influence participants, sometimes to the point of stifling their vision of new ways of doing things. On the other hand, there is no question but that strong-minded creative men shape the structure and functioning of organizations.

While the smaller and less complex corporations of yesterday flourished on the creativity and imagination of Ford, Sarnoff, T. J. Watson, and Colonel Patterson, if you look closely today at the companies founded by these men, they each have staff men who devote time to long-range planning. This is no reflection on the former line executives' ability—instead, it reflects a necessity generated by the increasing complexity of external society and internal operations.

This turn of events also has one additional implication regarding the characteristics of the planners themselves. From early childhood on to maturity the experiences in one's life tend to create characteristics in people of independence versus dependence. This isn't an either-or proposition, where a person is either independent on the one hand or de-



pendent on the other. However, there is a continuum of all shades of gray, with some people finding self-satisfaction with existing ways of doing things, and others who can live and develop only by being dissatisfied with the status quo. These are the independent thinkers, and they are somewhat self-centered. If they are too independent, of course, they may have trouble getting along in society, or even upset the company. And, by alienating their colleagues, they may fail to get their ideas across even though they are good. This was the case in the novel, *The Fountainhead*, where the architect failed to get his buildings constructed because he would not give in to social norms and the desires of others even in the slightest detail.

### Independent Thinkers Needed

Too much independence also conflicts with the need for social skills, which I referred to previously. Perhaps what is needed for the planning role in companies of fast-moving change is a man who possesses a higher degree of independence on that continuum, and who possesses a mature, civil, but open-minded form of social behavior.

It is my contention that line executives in charge of product divisions or even functional (sales, manufacturing) divisions, are generally more biased to the short-term status quo than are men especially assigned to top-management planning of long-run programs.

This may occur because short-run objectives, such as this year's profits, often conflict with long-run objectives, such as profit 10 years hence. If a good profit showing is being made by existing products and operations, why not, in the minds of executives whose careers are tied to these operations, continue to make that profit? Why lower this year's profits by sinking valuable budget money into new product divisions when you don't know whether they are to be successful?

### Must Take Long View

I have seen this, for example, in an insurance company which faced the problem of new product development. For many years, the life insurance division of the company had been the biggest and most profitable money maker. As group insurance was introduced in response to changes in the national society, many executives were reluctant to put large additional company resources and expenses into the group field.

What probably happened was that the competitive advantage of moving swiftly in the group business was somewhat retarded because the life executives naturally saw no reason to sacrifice their own budgetary position in favor of sinking more sales effort, advertising and research into this new and relatively untried product. This is not so much "bad management"—as simply human nature.

In another case, in the wall board business, the executives in charge of "X" division, whose product was becoming obsolescent, successfully vetoed the entry of the company into new wall board lines for three years. In an independent study by a Wall Street underwriting firm, the president was informed that X division was a "dead duck," and that unless an orderly closing of the division were effected, the company would suffer severe losses within 10 years. Note, however, that the executives in X division could hardly be expected to recommend, on their own initiative, that their operations (and their jobs) be discontinued.

In each of these cases, a planner in company headquarters, whose responsibility was to look ahead, and who was rewarded for producing profits in 10 years rather than this year, would have helped to prevent the institutional commitment of existing divisions from trying to stave off the inevitable. A planner with the time and interest to gather and disseminate valid facts on the demands of consumers, the actions of competitors, and the inevitability of change—showing in ef-

fect the "handwriting on the wall" to all concerned, may have increased the profitability of these companies through anticipating new goals, and convincing people throughout the company by weight of the evidence, that resources must be re-allocated in an orderly long-range development program.

### Summary

In summary, it seems to me that technological commitment definitely means more long-range planning if the company is to minimize the risk of sinking money into relatively fixed expenditures which may not later pay off. Plant, equipment, research and development, fixed labor forces, heavy advertising campaigns all come in this category. It further seems that institutional commitment has these additional implications:

1. Large, bureaucratic social institutions are likely to become attached to existing ways of doing things, and to existing policy and procedures. They cannot swiftly adjust to changes in tastes of consumers, new products, and new actions by smaller and more agile competitors.

2. Part of this tendency is due to the natural bias of managers within divisions of the company to maintain their own "empires" which are successful today, but may not be as successful ten years hence.

3. Another part of the tendency is due to the conflict between this year's profits, for which line executives are responsible, and the profits of the company in the long run.

4. Provision for orderly change can be made by establishment of long-range planning positions, if

- the man in the position has the time and interest to watch future developments in the company and environment, and think through the effects of these on company operations;
- the man in the planning position has stronger than average characteristics of

independence, a kind of natural dissatisfaction with the status quo, and a critical and inquiring mind;

- the man in the position is rewarded on the basis of creativity and intelligence in balancing long-run company goals, rather than concentrating exclusively on profits this year.

### A New Profession

The last factor which I see as affecting the future of the planning role in U. S. corporations is the necessity for methodological knowledge to do adequate and thorough planning. Planning today is not an art, into which you can throw a bright young man with good common sense. Neither is it a science, in which you can train men with depth and intensity of formulas, and then be assured that they will be effective.

Neither is planning a position where, as I've seen in some companies, you can promote a less capable executive when there doesn't appear to be any other place for him. When viewed correctly today, if the company expects a truly effective planning job, rather than a mediocre one, planning is a combination of three things:

- A *technology*, including a body of knowledge which helps the planner to do his work;
- A group of *social and intellectual attitudes and skills*, a few of which are mentioned in this article;
- *Wisdom*, which I define as an ability to know what knowledge and past experience are applicable to the problem at hand, and a willingness to abandon theoretical knowledge when it won't work (this could also be called a pragmatic attitude).

The technology to which I am referring here is not a body of substantive knowledge—the exposure to random facts in the internal and external planning systems. Earlier we saw that this kind of knowledge

is also vital. Rather, I am referring now to various kinds of methodological knowledge, applicable in varying degrees to any planning system.

This is analogous to the chemical engineer who must know a wide variety of substantive principles and facts, such as the table of elements, properties of liquids and solids, families of compounds such as halogens and hydrocarbons. But he must, in addition, know something about the scientific method and about the chemical processes of distillation, adsorption, filtration, in order to apply the substantive knowledge he has accumulated.

### Accounting Skill Necessary

There is no doubt in my mind that, in spite of the many recent developments in applied mathematics, the most vital planning methodology for a total business or division of a business is at the present time, and will be for some years to come, the methodology of financial accounting.

I am referring to financial accounting in the sense of a means of allocating *physical* resources, as well as a means of figuring profits or expenses, in dollar terms. I am also speaking of it as a way of relating sales volume (physical and dollar) to the entire company structure of men, machinery and buildings, materials purchases, and money allocations.

Physical and dollar budgets, and their counterpart pro formas extended into the future, are the only comprehensive model of the firm we have.

I am no accountant, and I have no particular allegiance to the field. However, in all of the issues of *Management Science*, *Operations Research*, and *Econometrica* combined, I have never seen a model which can reduce every part of a company to numbers, in all its complexity, right down to the allocation of most detailed resources, and interrelate every part to every other part, as can a well conceived system of expense

budgets, capital budgets, and cash flows.

Any apology for financial accounting which must be made in the face of newer developments, must be made either because the budget was misused as only a historical record, rather than as a pro forma prediction, or because the rules of public accounting have blinded the controllers and prevented them from being flexible in allocating money differently for internal planning purposes than they do for public balance sheet and profit statement purposes.

### Wanted: Methods Plus Intuition

If I were hiring a planning man to staff my headquarters planning department, I would want to make sure that he had at least a broad knowledge or acquaintance with financial accounting methods, if not a more detailed knowledge about how to enter transactions on the books. Perhaps accounting departments can also be criticized for not utilizing the methods of mathematics and statistics for improving the precision of forecasted figures that go into the balance sheet and income statement.

In line with this kind of knowledge, the techniques variously called "managerial economics," and particularly knowledge of the discounted cash flow method of determining profitability of investment, seem to me to be mandatory for a good planner. I am not suggesting that this be applied blindly as a formula, but the staff man should at least know enough about the method to see whether or not it is wise to apply it to his specific company.

At the same time, I do not mean to belittle the methods of traditional statistics, such as correlation analysis, time series analysis, frequency distribution inference and the like. Neither do I mean to imply that the higher level planner can get by today without some knowledge of acquaintance with the mathematical techniques of linear programming, queuing theory, stochastic processes, and so on. Both statistics and

mathematics can be used profitably to find which figures are most reliable for use in the pro forma balance sheet and income projections.

In addition to knowledge of this sort, I believe an intuitive kind of knowledge of the clinical or diagnostic method, starting with strengths and weaknesses of a company, is extremely helpful to the planner. This method, championed first by the Harvard Business School, is a fine way for the planner to avoid jumping to superficial conclusions, to stimulate his own depth thinking, to promote creativity in solutions, to cut through a complex problem finding its essential important factors, and to develop a sense of timing in various decisions.

### **Decision Matrix Method**

Finally, it seems to me that the decision matrix method, variously labeled part of "operations research," "game theory," or "decision theory," represents a more important methodology for the high level planner than do the mathematical formulas in more empirical investigation.

This is definitely a logical method, not a factual or empirical method. As such, it is quite suited to the broad kind of thinking required in long-range, top-management, judgmental decisions.

It is important to recognize that all of these methodologies are becoming in themselves a competitive weapon. Those companies which can increase revenues or lower costs by their use will have a competitive advantage over those others which ignore them. It is also important to recognize that they, in themselves, quite over and above the substantive complexity of the internal and external planning system, definitely add to the complexity of the planning task. This being true, it is even more unlikely that the

line executives of organizations will have the degree of knowledge of them that I see as necessary.

### **Wisdom Through Security**

One final point must be made about the mental qualities of the planner. We have already mentioned some social skills and attitudes, some personal qualities of independence and dependence, and some substantive and methodological knowledge which the planner must have stored in his head.

At this point, we must inject some attitudes which he should hold regarding the use of his knowledge. In vast open-end, complex action problems, we all know that there are no formulas. At best, the planner can use these knowledge frameworks only as guides, and he must have the wisdom and judgment to know when they work and when they don't; when they are applicable and when common sense is preferable.

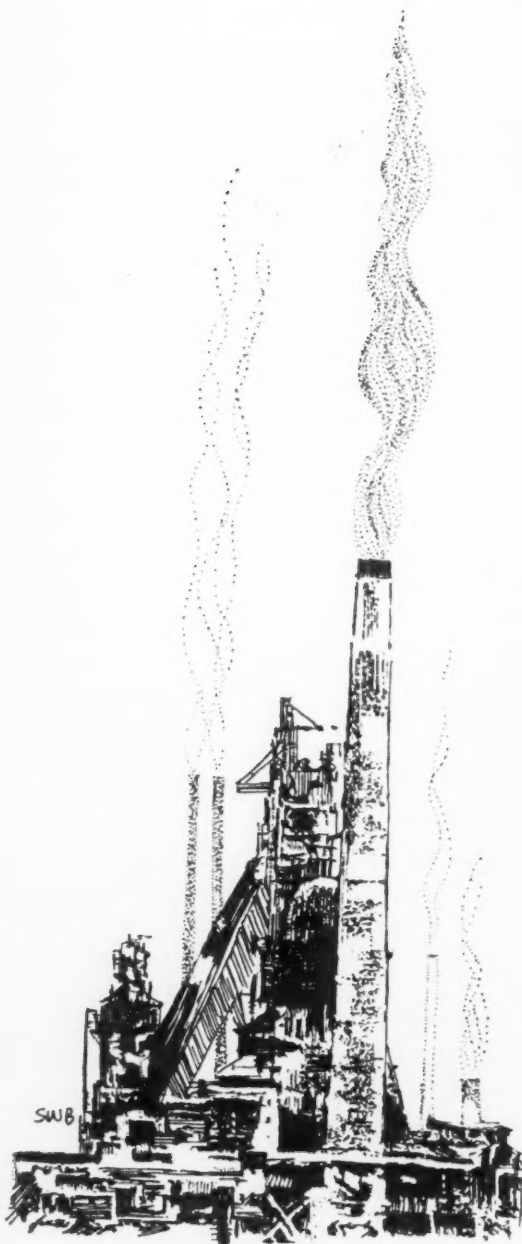
People who latch on to formulas and methods, and try to apply them with an almost fanatical zeal to action type problems, are people who have low degrees of personal security. One way this sort of person can make his world more orderly, more secure, and less confused as a place to live, is to catalog everything neatly into formulas. In such a situation, he has knowledge but not wisdom—methodology but not judgment.

Therefore, the last comment I would like to make about the qualifications of a person to fill the planning role is that he should have enough security, from other facets of his life, to maintain his judgment along with his science, logic and brilliance. He should not have so much security, however, that he becomes dependent, self-satisfied, and content to conform to the usual ways of operating in the organization.

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1. This estimate assumes that all variables are related to each other in one relationship. "A" is a certain function of "D," regardless of how many intervening variables there may be. Thus 50 and 70 represent the number of relationships. The estimate is conservative in that "A" may well be related to "D" in two different ways. Thus the number of relationships between all parts of the firm could conceivably be, for the 50 part system, somewhere between a minimum of  $50!$  and a maximum of  $(50! + 49! + 48! \dots 2!)$ .
2. Actually, combining long-range planning with short-range planning, in the same job, has certain motivational disadvantages. Nevertheless, many companies simply may not be able to afford the luxury of separating the two by creating an additional new executive position.
3. For a recent book which clarifies the reasons for the trend toward more planning in U. S. society, see Heilbroner, Robert L., *The Future as History*, New York, Harper & Brothers, 1960.
4. The merger and acquisition movement, as a trend in U.S. organization of production, is evidenced also by such companies as Botany, U. S. Hoffman, H. K. Porter, U. S. Industries, George W. Helme Co., and many others. The latter company, originally producing snuff products, has acquired divisions now producing 32 kinds of snuff products sold in 15 types of packages, the Bachman line of bakery products, 16 kinds of nuts in 45 types of packages, and a line of 16 different pretzel products.
5. For further substantiation of this reasoning, see Summer, C. E., "The Managerial Mind," *Harvard Business Review*, January 1959.
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7. An appreciation for the real complexity of large organizations, and the two tendencies mentioned, can be had from Merton, Robert, *Social Theory and Social Structure*, Glencoe, Illinois, The Free Press, 1948.
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9. This term, initiated by the psychologist Carl Rogers, implies a relatively broad kind of knowledge, rather than a "scientific," "knowledge about," these techniques. Someone, of course, must have this kind of knowledge also. But to say that all planners must have detailed specializations in operations research is equivalent to saying that all presidents should be accountants.





# THE JAPANESE WORKER

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ARTHUR M. WHITEHILL, JR.

*Firms planning branch operations in the Orient should know that the skilled Japanese worker's motivations and job expectations are not the same as those of American labor. This study points out why and suggests that workers of all nations are apt to react to management and job situations in terms of their own particular cultural values.*

GREATER understanding of worker motivation—of why men work—lies about as close to the roots of good human relations as any problem faced by administrators today. And in the human aspects of administration lies the greatest hope for increased productive efficiency so critically needed in the years ahead.

In a world increasingly occupied with a re-examination of basic values, it seems useful and timely to explore the relationship of cultural values to man's willingness to work. As Everett E. Hagen, director of the Motivations Project at Massachusetts Institute of Technology, has stated so well: "Principles of business administration are not absolute; they are relative to the culture of the society."

The study outlined in this article suggests a little-explored approach to motivation research which shows promise of adding to our knowledge of this most important problem. Results thus far indicate that cultural values may be the force which integrates other elements already proved significant to the effectiveness of a group and the individual productivity and satisfaction of its members.



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Some of these elements are (1) technical organization and social structure of the group, (2) individual task motivation, (3) rewards and penalties received on the job, and (4) individual satisfaction from being a member of the group.<sup>2</sup> There is no need to question the demonstrated significance of these forces in explaining human motivation. We have turned up some compelling evidence, however, which indicates that cultural values may have a great deal to do with the way these elements are thought about, talked about, and acted upon in concrete work situations.

To test this line of thinking, we chose for our initial laboratory the culture of Japan. In association with Professor Shin-ichi Takezawa of the Industrial Relations Center, College of Social Relations, Rikkyo University, Tokyo, the author studied and interviewed workers in five Japanese companies in an effort to determine the influence of cultural factors on their motivation and morale as workers. The research was financed jointly by grants from the Johnson Fund of the American Philosophical Society and the University of North Carolina through the Business Foundation and Research Council.

There were several reasons for our choice of Japan as our first testing ground. To begin with, we were familiar with the proved efficiency of Japanese workers in factories characterized by working conditions and social relationships quite different from those in the United States. Furthermore, there is little doubt that Japan stands today as the most highly industrialized nation in Asia. Comparison of value judgments which have motivating force for workers in two such different cultures could, we felt, tell us whether our proposition was fairly substantial or too slippery to do much with.

This article presents the results of a modest, first step on a long-range research program. The findings, therefore, are partial findings and should be considered tentative

in nature. A comparable study will be conducted in selected U. S. firms for purposes of comparison and control. Also, we intend to extend the investigation of cultural values to the management level, with particular reference to the influence of such values upon decision making.

### Culture and Behavior

Behind this investigation is the basic conviction that how a man thinks and acts in a given situation will be significantly influenced by what he thinks is appropriate, proper, and expected of him. However, whether or not his attitudes and actions coincide with this role expectation will depend to a considerable extent upon how faithfully those with whom he interacts fulfill his conception of their proper role—that is, how “fair” their behavior seems to him.

In short, we all make decisions concerning behavior at least partially on the basis of what we feel is expected of us—and how well others are fulfilling our expectations of them. These concepts of *role expectation* and *role fulfillment* seem to provide a vital connecting link between culture and human behavior. How they work out in practice will vary markedly from one culture to another.

### “Proper” Behavior

Transferred to the work place, these phenomena play an important part in shaping men’s motivation, or will to work. The notion of proper behavior, in this context, may be thought of as behavior expected of “good workers.” And the extent to which workers decide to follow this pattern of behavior will be considerably influenced by how faithfully management (either at the supervisory or at the company level) fulfills the workers’ notion of “good management.” There is a complex network of shared obligations which, when disregarded or even slighted, can seriously jeopardize the motivation and morale of industrial workers.

**"Gimu"**

The culture of Japan puts great stress upon such feelings of obligation. Early conferences with business and labor leaders, plus a number of intensive interviews with bench-level workers, convinced us that worker perception of shared obligations between labor and management provided the key to exploration of the unique cultural values which today contribute to motivation in Japanese factories.

A special study indicated that of several traditional obligation systems which Japanese workers recognize and can talk about (*on*, *gimu*, and *giri*), the concept of *gimu* proved to be the most meaningful and compelling. Our problem, then, was to devise a procedure for identifying and evaluating the forces of *gimu* as they affect behavior of present-day Japanese workers.

**Cultural Continuum Checklist**

It did not take long to discover that this would require a new research tool—a special sort of questionnaire. After a good bit of intercultural anguish, we devised a unique device called "The Cultural Continuum Checklist."

The C.C.C. sets forth forty realistic, down-to-earth choice situations in terms which are meaningful to respondents. In other words, the participant is placed smack in the middle of a series of dilemmas and then required to work his way out. The decisions he makes provide a wealth of insight concerning the values which to him are most attractive and compelling.

The four alternatives available to respondents on each C.C.C. question were designed to provide a continuum of behavior patterns ranging from an extremely traditional, or highly indigenous, choice within the culture of Japan to a comparably extreme position in the substantially different culture of the United States. In this study, therefore, the alternatives were courses of action which we believed reflected Extreme Eastern, Mod-

erate Eastern, Moderate Western, and Extreme Western value concepts respectively.

**The People Involved**

Before describing some of the things we discovered, a word should be added about the participants in this pilot study. Limited time required that the sample be realistically selected. First, we decided to restrict it to male, production-level workers. Furthermore, we chose only permanent workers (*Honko*) rather than including the substantial floating reserve of temporary workers (*Rinjiko*). Of all the industrial workers in the world—including the United States—those of Japan who are employed as *Honko* enjoy the greatest job security available within a private enterprise system. Therefore, the impact which even latent fear of job loss can have upon motivation was minimized.

Only five companies were studied. However, these ranged from one of Japan's largest steel companies down to a small firm of thirty employees making *shoji*, or sliding doors. Two of the participating companies were unionized. In every instance, management allowed the survey to be conducted during work hours and on company time.

Worker participants typically gathered in a sufficiently large room, often the company cafeteria, for a period of 1½ to 2 hours. As they entered the room, each respondent was presented a copy of the checklist, a pencil, and a gift of a small cotton towel (*tenugui*). That this modest gift was accepted with appreciation by all workers impressed us as one of several instances in which the study itself was being affected by certain unique culture-based practices.

Just a few highlights of the study can be reported in this article, but these may be sufficient to point up the need for further exploration of this approach to motivation research. At least one question from several of the major C.C.C. categories will be described in an attempt to convey some of the flavor of this initial investigation.



### Lifetime Jobs Are Expected

**Career Employment:** One of the most important areas of difference when comparing human relations in Japanese and Western companies is the degree to which both workers and management recognize an obligation to continue the employment of all permanent employees until retirement or death. In our study we found it useful to make a distinction between (1) worker expectations and (2) worker commitments.

**Worker Expectations:** What does a production worker expect of "good management" when, because of automation or other reasons, he is no longer needed on the job for which he was hired?

In the United States most rank-and-file workers feel they are employed to perform a particular job rather than to join the company for life. Job analysis first points up job requirements, and effective placement then matches men to the job. Management obligation, for example, to find work in a white-collar office position for a displaced drill-press operator goes beyond the role of "good management" as perceived within a Western cultural context.

We found worker expectations in this situation to be quite different in the Japanese culture as opposed to that of the West. Japanese workers voted an impressive 84 per cent for the Extreme Eastern response which said management should find such employees different work, wherever available in the company, since they had been hired for the company rather than for a particular job.

### Workers Must Remain "Loyal"

**Worker Commitments:** If the company must keep workers on the payroll even when their jobs disappear, what sort of return commitment are these workers willing to make to management? What does the role of a "good worker" demand in return for this sort of plush security?

To get a reaction to this situation, we

asked participants what a man should do if another equally desirable company offers him a similar job at 20 per cent higher pay. We expected that at a time of high-level economic conditions—such as 1959 when the questionnaire was administered—many workers would show real "Western-style" independence and just walk out if faced with such a substantial increase in pay.

About one-fifth of the respondents fulfilled our expectation and said they would accept the offer and quit. An additional 42 per cent were tempted, but wanted to hedge a bit by talking it over with their foreman before making such a decision. However, the remaining one-third of participants displayed the persistent force of *gimu* to the company in saying they would "show loyalty and patience" by staying with their present employer. It should be recognized, of course, that some of this willingness to accept such an extreme degree of commitment may reflect, particularly among older workers, a desire to protect their right to receive full severance allowance upon normal retirement.

### Worker Identification with Company

The basic proposition behind C.C.C. questions in this category is that the extent to which workers recognize an obligation to identify with their company, and to subordinate individualism to groupism, will influence management's ability to stimulate willingness to work. More specifically, we propose that close personal identification with the company is a positive force in worker motivation!

A question posed in this connection asked what sort of company environment workers expected "good management" to create. It seems reasonable to assume that most Western workers believe a company should be a business-like place for workers and management to accomplish mutual goals—not a replica of family-type organization and relationships. And almost 30 per cent of Japanese

respondents selected this "business-like" notion as best describing the sort of job environment they thought most desirable.

But cultural forces exert a strong pull and, as William F. Whyte has observed, "The impact of cultural differences does not seem to pass away before advancing industrialization."<sup>24</sup> This generalization becomes quite clear in the situational context posed by the C.C.C. question just described. About one-third of our respondents believed management should create an environment "very much like a big family" to which workers may belong until retirement. Another 32 per cent agreed that the company should be a part of their lives "at least equal in importance" to their personal lives.

### Wages Based on Need

Culture factors also contribute to each employee's notion of what company policy should be in the critical matter of wage payment if the "good management" role is to be fulfilled.

In the United States there is little real disagreement with a "contribution basis" for determining individual pay rates within the range established by collective bargaining and prevailing practices. It seems "fair" to Western workers that they should be paid more on the basis of their skill, care, and effort on the job than on the basis of their special personal needs. Individual need, for example, is reflected in U. S. wage rates only indirectly—and modestly—through exemptions for dependents under federal and state income tax laws.

Just how differently our Japanese respondents saw this problem can be demonstrated by their reactions to a question concerning payment of a "family allowance." A vast majority (77 per cent) believed their take-home pay should include a family allowance with extra compensation preferably for all, but at least for a limited number, of family members.

### Paternalism Expected

Cultural differences seem largely behind the relatively greater dependence of Japanese workers, in contrast to their counterparts in the United States, concerning management responsibility for the personal welfare of the individual. Company policy covering sick leave is a case at point. Western workers expect some help from management when illness strikes. But few employees of U. S. companies would seriously propose that the company continue his pay, or even hold his job, in cases of prolonged illnesses—say those lasting more than a year.

We asked Japanese workers what they thought "good management" should do when an employee becomes seriously ill. Thirty-six per cent thought the company should continue a sick worker's pay until he recovers no matter how long that may be! A more "moderate" 51 per cent believed that his wage should be continued only for about two years, but then insisted that his job should be held until recovery.

### Perspective for the Future

Many other examples could be cited of the effect in specific situations of indigenous cultural factors upon employee perception of his own role as a "good worker," and of company policies and actions he sees as necessary to fulfill the role of "good management." The extent to which these roles are satisfied in the day-by-day experiences of workers both inside and outside the plant appears to significantly influence motivation.

But not all the questions on the Cultural Continuum resulted in Japanese responses which were so radically different from those which we would expect of U. S. workers. Answers to some items revealed quite clearly the fact that more than five years of military occupation, plus almost ten years of close civilian cooperation, have had their influence.

### **Gimu in Transition**

The plain fact is that cultural values in Japan, and more specifically the concept of *gimu* with which we are most concerned, is in a critical state of transition. Generalizations are risky; situation-by-situation analysis, slow and costly though it may be, seems to be the more useful approach to greater understanding of the culture-based forces behind employee behavior.

At this point in the discussion, business executives well may be thinking, "Interesting—but what has all this got to do with me?" Evidence is accumulating which makes the only sensible answer "Plenty!"

### **Culture Determines Attitudes**

First, it is important to recognize that in each culture with its special set of needs, business management is challenged to recognize—and to satisfy within the dictates of sound management—those values which have meaning and importance to employees. It is pretty clear that cultural values do influence the way workers size up their own role, and that of management, in their total work environment.

This is difficult enough in our own culture; much more research and continuing study is needed to identify and evaluate the impact of "the American way of life" upon employee behavior in the United States. But when extended to radically different foreign cultures about which we know so little, the plot really thickens.

### **Wanted: Executive Awareness**

Difficult though the problems may be, administration in business no longer can be pursued within relatively comfortable and familiar national boundaries. Competing in world markets—either directly or indirectly—

demanding that executives have an awareness and understanding of cultural differences that mold and shape the motivation, and hence the efficiency, of workers throughout the industrialized world.

### **Companies Can Create Values**

Second, there is another, and perhaps even more vital, concern of executive leadership with the influence of culture factors upon man's will to work. Cultural values are not static—they are highly dynamic! Quite clearly they are subject to the stress and strain—the push and pull—of economic, social and political events which communication media have made increasingly available to workers for their consideration.

It is difficult to escape the conviction that a sober obligation of administrators in the world of today is to create or restore through company and community leadership an acceptance of new or previously rejected values, the achievement of which can contribute to both individual satisfactions and organizational goals.

### **Future Projects**

Finally, we suspect that further exploration of the role of cultural values will be of vital interest not only to business administrators, but to scholars, diplomatic personnel, technical specialists, and others who must relate themselves effectively to individuals and groups in a complex culture quite different from their own.

Without attempting to push an analogy too far, it might be said that we have selected a large canvas, sketched in the broad outline, devised a new brush for our special purposes, and dabbed a little paint in one corner. We are quite aware that much remains to be done before the day arrives, if ever, when the canvas will be complete.

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## International Intelligence for the International Enterprise

JOHN J. BEAUVOIS

*Today international intelligence is as essential to international businesses as it is to governments, and its collection and evaluation have given rise to a new type corporate officer, the Executive Diplomat. How this ambassador in a grey flannel suit should think and operate and the legitimate scope of his inquiries are outlined here by a specialist in the field.*

Every morning the President reads through a thick sheaf of secret-situation reports prepared by specialists in the State Department, the C.I.A., and other government agencies that give him a summary of the latest political and economic developments the world over. Every morning at Number 10 Downing Street, Prime Minister Macmillan and his top aides go over similar reports made by British agencies. In Paris, President de Gaulle also gets a political and economic pulse reading from key points around the world. These reports are vital in keeping top political leaders informed of trends and developments affecting their countries.

While the President and his counterparts in London and Paris are studying intelligence reports, the heads of large international corporations like Unilever or Shell are also studying political, economic, and business information that affects their world

operations. Today international intelligence is as essential to international businesses as it is to governments.

As an increasing number of American companies become international enterprises in the 1960's, international intelligence will become equally vital to them. It is my purpose to review here why information is necessary, what information is necessary, and how it can be obtained.

### Why Intelligence Is Necessary

The impact of international developments on business is not new. Throughout history economic and political events have affected business in many ways. In the fifteenth century, Venice's commercial supremacy was struck a fatal blow when the Portuguese discovered the Cape route to India. In recent times, American companies have been seriously affected, favorably or unfavorably, by



international developments. One has only to think of the expropriation of foreign oil companies in Mexico in 1938, or the implications of the Cuban revolution.

But, if business has always been sensitive to international developments, it now operates in a world increasingly ruled by shifting and complex trends. Industrialization, recent independence, and the emergence of new economic units are forces causing rapid change in many countries. In addition, in several parts of the world political pressures and ideological conflicts deeply affect the business climate. India, for example, has been oscillating for some time between state capitalism and the need for foreign private investment. And in the Middle East frequent political upheavals compel the foreign investor to maneuver continually in order to protect his investment.

Furthermore, never before have economic and political forces been interwoven so closely in determining business conditions. Today, governmental intervention can be felt at all levels of economic activity, and this trend will most likely continue. Economic unions, like the Common Market, are decided, planned, and enforced by governments. In most underdeveloped countries the urgency of industrialization has resulted in economies that are closely controlled by the state. As a result, the international manager must work increasingly with governments. And he must be increasingly alert to any evolution in their thinking or philosophy.

### **America's Role**

As these complex forces shape the business world of the 1960's, they will affect the growing number of domestic enterprises that will be moving into the international field. Whether it is in response to opportunities abroad or to the threat of foreign competition in the United States, the trend is towards internationalization of American business. In 1961, for instance, total private United States investments overseas are ex-

pected to reach \$45 billion, a 25 percent increase over 1957.

Internationalization of American business itself would justify the need for international intelligence. But this need is underscored by the role of American business in the economic war with Russia. As the struggle for survival gains momentum, ignorance or misinterpretation of Soviet economic strategies could be fatal. At the same time, American business's responsibility for the development of underindustrialized countries demands that local needs and aspirations be recognized. Only in such a way can this responsibility be discharged in the Free World's best interest.

### **Dual Responsibility**

As a result, the international manager of the 1960's will bear dual responsibilities. One will be to his stockholders for the results of his world-wide operations, the other to the United States and the Free World for playing his part as effectively as possible in the economic struggle against the Communist bloc. In order to discharge these two basic responsibilities, the international manager, like the political leader, must keep informed of world developments and trends.

Thus, companies operating in an international environment must develop an intelligence system alerting them to any short or long-term trends affecting their businesses. As a matter of fact, international intelligence is so vital and sensitive an area that many large international companies are reluctant to divulge, even privately, their approaches to this problem.

### **Danger of Misinformed Decisions**

The chances of making misinformed decisions are greater in an international enterprise than in a domestic one. The international manager works in a more complex environment than his domestic counterpart. At the same time, he is in many ways less well prepared to cope with it.

The domestic executive can follow current developments in the United States and evaluate their significance to his business with reasonable accuracy. Because he works in a familiar environment his chances of erring are greatly reduced. Furthermore, he has many ways of testing his own judgment against sources such as newspapers, trade publications, government reports, and the like.

By comparison, the international manager often lacks familiarity with foreign markets. He must perceive and interpret international developments with a much scantier knowledge of their context and with little, if any, first-hand experience of their environment. As a result, he is sometimes prone to use United States criteria too freely in appraising overseas trends.

Here are two examples of environments that must be understood.

- The social climate in many underdeveloped countries hampers the training of local management. For centuries economic life in these countries has been based on the family, the tribe, or the village—a self-governed unit. At the same time, local religions, Hinduism for example, often emphasize spiritual values to the detriment of material accomplishments. As a result, the concept of corporate management is unknown, and business is not always enticing to the local elite.
- Labor relations in most foreign countries are guided to a large extent by ideological considerations. Typically, local unions follow the Marxist line. As a result, collective bargaining must be carried out in a completely different perspective than in the United States.

Thus, the chances for making misinformed decisions are great in an international enterprise. In addition, the penalties for making them can be extremely high. This is true today and it will be even truer in the greatly competitive world economy of the future.

Then, more than ever, well-informed management will be a critical factor for success in the world markets.

### Penalty for Wrong Decisions

There are numerous examples of the penalties paid by American business for misjudging foreign conditions. Here are two significant cases.

- Long-range planning cannot be carried out in the best corporate interest unless foreign trends are recognized. For instance, during World War II, an American company established a leading position in a highly specialized field of military equipment. After the war, peace-time applications began to develop in many foreign countries. The Company's failure to realize the implications of such trends and to move quickly into product modification and world-wide servicing facilities resulted in a sudden and substantial loss of position. In an effort to recoup, a licensing arrangement was worked out with a European manufacturer. Extensive know-how provisions were incorporated in the agreement. Today, substantial opportunities exist for an American manufacturer to produce similar products in Europe. However, this company is effectively excluded from participation by its agreement, which requires that it share design and product development with its licensee, who would then become its European competitor. Thus, by failing to recognize and appraise market trends, this company finds itself out of a profitable market.
- Management decisions affecting personnel require recognition of local business practices and ethics. For instance, a large American corporation operating in a Western European country was about to embark on a cost-reduction program. This program would have resulted in substantial savings, but a

significant number of employees would have been laid off at its main plant. Besides the fact that firing employees on such grounds is not an accepted practice in that country, it would have created unemployment in the area. It so happened that a large percentage of this company's business was with governmental agencies. Had this project been seen through, political pressure would most likely have been put on those agencies to place their businesses with some other suppliers. Thus, the savings expected would have been offset by losses in sales, not to mention the ill effect on the company's reputation.

Because intelligence is so vital to the international enterprise, its collection and interpretation must be systematically planned rather than left to chance. The remainder of this article is devoted to an analysis of the kinds of information companies need and the way in which it can be collected and interpreted.

### **What Intelligence Is Necessary?**

The scope of an international intelligence service will of course vary with the nature of the business. Companies with worldwide operations require more information than enterprises that are geographically more limited. Similarly, some companies are more sensitive to specific economic or political trends than others. (For instance, utility companies have historically been concerned with foreign trends toward the nationalization of sources of power.) Nevertheless, every international intelligence service should provide two kinds of information: general background studies, and reports on current developments.

### **Background Studies**

Most American companies long established in overseas markets have accumulated a sound knowledge of local economic and

political conditions over the years. Companies with a shorter international history and companies that are entering overseas markets also need this type of information. Current events can be fully understood only in their historical and cultural context. Likewise, the anticipation of future developments hinges on an accurate evaluation of present conditions.

General background studies should cover two major areas, economic intelligence and political-social intelligence. A checklist of points to be covered and questions to be raised and answered follows.

### **Economic Intelligence Checklist**

In the area of economic intelligence, material collected should aim primarily at providing management with a general picture of a country's economy, emphasizing its major strengths and weaknesses; an analysis of its investment climate; an analysis of the main factors affecting business operation.

Information should be given about the basic strengths and weaknesses of a country's economy. For instance:

- Population growth and its effect on unemployment
- Sensitivity of the economy to depressions
- Sufficiency of basic raw materials or deficiency of food supply
- Projection of growth and description of factors that may accelerate or slow down economic development
- Foreign trade and payments situation

It should also provide an interpretive analysis of the local business framework. For instance:

- Degree of state ownership of or participation in the economy
- Industrial concentration and climate of competition
- Transportation facilities and standards of service

- Price level and price-fixing mechanisms

In addition, this general study should analyze the investment climate of the country, interpreting current legislation and drawing if possible on practical experiences. It should cover:

- Incentives to attract foreign investors
- Limitations to foreign investments or investment conditions
- Corporate structures available to United States companies
- Ownership requirements
- Exchange control and transfer of profits, royalties, interests
- Fiscal discriminations against foreign companies
- Licensing opportunities and history of litigation between American licensor and local licensees and/or local governments

Finally, this general study should analyze the main factors affecting business operations. For instance:

- Availability and cost of energy
- Availability and quality of local labor
- Availability of raw materials
- Size of markets.

### Political and Social Intelligence

As essential as economic information is a sound intelligence of political and social conditions abroad. Here, three major areas should be covered—the local political and social climate; the government's policies; the administrative structure of the country. In providing an interpretive analysis of the local political and social climate, this study should treat, for instance, the following areas:

- The present political system
- The political parties, their importance in vote and representation at national and local levels; their attitude toward foreign investments

- Nonpolitical influential groups and their role, for example the Army or the Church

- The social climate and the state of labor-management relations
- The local unions, their strength and influence on the life of the country

In addition, a general study should describe the current government's policies and their significance for business. For example:

- Local government's stability, past history, and outlook for the future
- Monetary and credit policies
- Attitude toward free trade
- State controls over economy, e.g., control of sources of energy
- Economic and political affiliations (alignments)

Finally, this study should provide an analysis of the administrative structure of the country, such as:

- Number and policies of governmental agencies concerned with economic affairs and business
- Local standards of administration, for instance, the speed with which decisions on investment and licensing are made
- Government practices against existing regulations.

### Current Situation

Background information would be misleading if it were not brought up to date regularly by reports of current developments. In a dynamic world new trends can rapidly modify investment or business climates. They can affect the attractiveness of one or more markets to the international enterprise. They can also present it with problems with new dimensions in its current markets. Here are two illustrations:

- Economic conditions in foreign markets may change rapidly. For instance, the

ranges of alternatives open to an important segment of the electrical industries changed dramatically from July 1958 to January 1959. Two things happened during the six-month interval. Some companies that had not been very active abroad had reached decisions about timing, markets, product research, and methods of operations. Other companies already abroad had responded to sudden changes at home and overseas by reappraising their current ability to face growing competition and opportunities ahead.

New plants were started, going concerns purchased, licenses granted, and research contracts signed. Any major manufacturer in this industrial group still worrying at the beginning of 1959 about problems and choices six months old ran a real risk of wrestling with phantoms.

- Also, political developments may dramatically change the local business climate. In 1958, for instance, a large United States chemical company, Olin Mathieson, joined French, Swiss, and British interests in a \$135 million project to exploit bauxite deposits in French Guinea. Long-term agreements were signed with the local administration.

A few months later, President Charles de Gaulle offered independence to the member states of the French Union. Guinea became independent and severed its links with France. As a result, the United States management and its partners were faced with completely new political conditions. And the success of the initial project depended heavily on the ability to deal with the new government.

Current reports cannot reasonably cover every economic and political development abroad. The cost of providing such service would be excessive. Furthermore, much of

the speed with which current developments must be brought to management's attention would be lost and corrective decisions might come too late.

Thus, in determining the scope of such reports their true significance to corporate activity must be the measure. This is a decision in which individual judgment must be exercised. In fact, it raises the basic question of how to organize for effective intelligence.

### Creating International Intelligence

The purpose of international intelligence is to enable the international manager to make well-informed decisions and thus to discharge his basic responsibilities more effectively. Because it reflects the needs of a particular business, an effective intelligence service can obviously assume many different forms. However, its basic objective is always the same.

International intelligence is particularly important in the following areas:

- Planning the long-range development of the business on a worldwide basis
- Mapping out global strategies for the corporation in order to ensure the highest return on investment
- Coordinating the execution of those strategies in order to strengthen the company's competitive position on a worldwide basis
- Reappraising original programs of action and making corrective decisions as needed
- Controlling and evaluating the performance of local operations.

### The Intelligence Coordinator

The intelligence function must be centrally coordinated. This can be done in many different ways. In some large international companies, the intelligence function is centralized in an economics department. In smaller concerns that have a more limited geographical scope, intelligence is under the supervision of the administrative manager.



Whatever the solution adopted, the basic functions of the intelligence coordinator remain the same. He should be responsible for:

- Planning the collection of information and ensuring that it is accurate and significant to the company's business.
- Deciding on the choice of intelligence sources. (For instance, the corporation may want to rely on its overseas managers for that purpose or it may prefer to use outside agents.)
- Testing the validity and credibility of information when necessary.
- Supervising the interpretation of the information received in the light of the corporate objectives and policies.
- Preparing and supervising the circulation of information throughout the corporate headquarters and the overseas operations as needed.

### **The Executive Diplomat**

In addition to the intelligence coordinator, international companies require executives with a new kind of skill and their need is reflected in the development of a new type of executive, the "executive diplomat."

Large international companies find themselves competing with increasingly extensive and powerful international concerns. At the same time, they also find that they are affected more and more by the rulings of local authorities. In fact, the future success of American business in many world markets will depend less and less on technological advantages and more and more on the ability of the international manager to deal with foreign authorities.

To cope with this increasingly important aspect of international business, many international corporations are evolving a special staff of "executive diplomats." This staff makes up what amounts to a corporate state department. Oil companies, of course, have for a long time recognized this need and most of them possess just such a staff. But a growing number of companies in diverse

industries may also require this new type of executive soon.

The basic responsibility of these executives is twofold. On the one hand, they are responsible for establishing and maintaining close relationships with local governments and other influential groups. On the other hand, they must keep corporate headquarters informed of all economic and political developments of any significance. In addition, they must be able, as much as possible, to anticipate future developments and their possible impacts on business.

Executive diplomats are essential to a large international enterprise. Besides their "government relations" role, or because of it, they can obtain for corporate management information that will either not be made public or, if it is, will be known too late for action. With such information corporate strategies can be quickly adjusted to current developments, thus giving the company a significant competitive advantage.

### **The Outside Source**

Many companies find it necessary to supplement their own intelligence service with the services of outside agents. In addition, companies new in the international field often find it impossible to set up their own intelligence departments in the time and at a cost they can afford. As a result, in the last few years the number of international-research specialists has grown. The service of these specialists can be of great value to business. For example, a large steel manufacturer decided to improve its competitive position domestically by affiliating with similar firms in one or several of the major steel-producing countries. This company had had little experience in foreign business. Furthermore, the affiliation was a rush project and there was no time to organize for international intelligence. Yet the investment decision required considering economic and political factors in six countries, so the company retained a specialized intelligence serv-

ice in London that prepared intelligence reports on the countries considered.

This is a typical example of a rush, one-time project that can be better and more economically handled by an outside agent. In addition, many outside agencies will provide a continuous service of current intelligence reports.

### Selecting an Agent

However, the large number of international-intelligence agencies in existence as well as the absolute necessity of obtaining sound intelligence, underscores the importance of selecting the "right" agent. Here are a few questions that the international manager should ask himself before making this selection.

- Does this intelligence agency have its own network of agents in major foreign countries? This is important, for the same standards of accuracy must be used in the collection and interpretation of all data.
- How long has this agency been operating in this field? This is equally important. The local contacts that are essential to effective intelligence are made over a period of time. Firms newly arrived in the field cannot expect to have as easy access to non-public information as older firms.
- Does this agency have an American business outlook? Of primary importance is the ability of the intelligence agent to understand the basic problems of the American-based international enterprise. If he does, he can interpret the information collected more usefully, and he will be alert to specific data that may have particular significance for his client.
- Has this agency had previous experience with our type of problem? Political intelligence in particular requires special skills and contacts that often cannot be improvised.

- What are the standards of service provided by this agency? This can be appraised in many cases by looking over some sample intelligence reports. For instance, one of the most common faults in intelligence reports is an emphasis on a purely historical approach at the expense of an interpretation of the current facts.

### Developing "Contacts"

Besides specialized intelligence agencies, some companies use individual contacts in foreign countries. University professors abroad are a valuable source of information, particularly in the field of political intelligence. Few people are in a better position to interpret local political developments than some educational leaders, especially those in the fields of economics and political sciences. Moreover, in many countries, they are well versed in local politics. And they usually occupy pre-eminent positions in influential local circles. As an illustration, a large pharmaceutical company maintains close contacts with medical-school professors in several foreign countries. This practice has proved extremely valuable in keeping both the United States and overseas management informed of current and future legislation in the fields of social medicine and drug regulations. It also has proved useful in seeking government authorization for the local manufacture of various drugs.

Thus, the relative success or failure of many American companies in the 1960's can depend in part on the intelligence of international developments that is available to them. Whether they succeed or fail will in turn affect the outcome of the Free World's economic war with the Communist bloc.

Napoleon is reported to have said that the issue of every battle, no matter how long, was actually decided within a fifteen-minute span. The development of international intelligence may be just that fifteen-minute span.

# Setting Sales Quotas

DONALD R. HERZOG

*Sales quotas need not be set intuitively or by hit or miss "we've got to beat last year's figures" systems. There is a whole arsenal of proved statistical procedures which the businessman can use as weapons in his war against sales resistance.*

Although many businessmen recognize research in production and product development, they often do not consider it essential in setting sales quotas. They may put controls on labor to save production costs, but venture their savings on untried sales programs. Quotas for sales are too often set by crude guesses, hunches, or blind extensions of past sales records.

Sales quotas can be invaluable in measuring salesmen's performance but, to do so, they must be accurate and realistic. The accuracy of sales quotas depends on the quota-setting method.

There are innumerable approaches to sales-quota determination; but most will fall into one or a combination of the following categories:<sup>1</sup>

- Jury of Executive Opinion
- Sales Force Composite
- Past Performance
- Market Factor and Market Index
- Correlation Analysis

## Jury of Executive Opinion

Setting sales quotas by a jury of executive opinion—a process in which the views of several executives are combined and averaged to establish a sounder sales quota than perhaps could be obtained from a single executive—has the advantage of bringing together several specialized viewpoints. A company operating under this method generally brings together executives from the

finance, production, sales, and marketing research divisions and pools their viewpoints. Some companies supply their juries with statistical material to aid them in setting quotas; however, since the quotas are ultimately based on what the executives think should be sold, this is the method often referred to as the "guesswork quota" method.

## Sales Force Composite

The sales force composite method places the responsibility for making estimates upon members of the sales force. Sometimes, these estimates are made privately by the salesmen on forms provided for the purpose; other times, the salesmen in conference with the sales manager, discuss sales opportunities in their respective territories. This method is better, especially if the conferences are supported by records of past performance and market possibilities. It gives the salesmen a base figure to which additions or subtractions can be made. Another advantage is that it gives the salesmen a feeling of having a say in sales planning. Because of this feature, it has been called the "psychological quota system."

Unfortunately, manufacturers who determine sales quotas by permitting salesmen to estimate the amount of expected sales generally find that it leads to trouble. Salesmen, as a rule, are not good judges of future distribution; they are inclined to optimism and their estimates are not always determined by logic.<sup>2</sup> They fail to heed the demands of

the market, general business conditions, introduction of new products, and advertising programs. For these reasons, many authorities do not favor permitting salesmen to determine quotas.<sup>3</sup>

Many sales organizations investigate and watch the work of each salesman. In this way they determine whether the salesman is an optimist or a pessimist and take this factor into account if the salesman is allowed to set his own quota. When, as in some cases, the salesman is permitted to set his own quota, it is generally good policy to have it reviewed by other sales executives. If the quota is set too high, the salesman can become discouraged and the production department may build up excess inventory. If the quota is too low, the salesman is inclined to relax a bit after the goal has been reached, or there may be a shortage of goods to meet the demand stimulated by the salesman's efforts.

#### Past Performance Method

Some concerns base quotas almost entirely on past sales. The usual procedure is to increase the sales volume from the previous year (or an average of sales over a period of several years) and then apportion the total quota to the territories and products on the basis of their past records. Another procedure is to increase each salesman's quota over the past year by an arbitrary percentage.

The past sales method of quota setting is simple and is often used when no company sales forecast or sales potential has been determined. It is a poor method of quota setting,<sup>4</sup> in that it fails to take into consideration changes in the market or sales potential in the territories.<sup>5</sup> If this method of quota setting must be followed, the use of an average sales figure for the past several years, instead of the previous year's sales is preferable because such an average will reflect a trend and compensate for both abnormally high and low years.

One of the disadvantages of this method

is that it may fail to stimulate enthusiasm in the salesman. It is always difficult to convince him that his quota is just. The maximum value of a quota can be obtained only when the district sales manager and the salesman both know that it is based on fundamental marketing conditions in the territory and that its attainment is possible.

Sales quotas based on previous years' sales may not uncover ineffective sales performance in a given territory. Although a salesman may have had what was considered good sales volume last year, the sales potential in the territory may actually have been much more. Increasing his previous sales volume by an arbitrary percentage for the current year does nothing to recover this potential. Thus, a salesman may have performed poorly for many years with no recognition by sales management that this was the case.

#### Market Factor and Market Index

Market factors and market indices are widely employed by numerous companies in apportioning sales forecasting among territories in the form of quotas. Usually, the quotas are based on one or more statistical series which indicate a sales opportunity for their products. Any such series is called a market factor. Such statistical series often include disposable income, retail sales, income tax returns, employment, population, automobile registrations, bank deposits, and birth registrations, to mention a few. The market index expresses—in the form of a percentage of the total for the United States—the potential in a given county or trading area.

The problem at once arises of selecting from these statistical series the most significant factor, or group of factors, in any particular case. Ordinarily, the first step requires making up a list of possible factors for which data is readily available. This requires common sense judgment, an acquaintance with factors used by manufac-

turers producing competitive goods, and familiarity with types and sources of statistical data available. The next step is to study each factor to determine its significance and, by this means, choose for final use a small, usable group of factors.

### Single Market Index

The most common single type index is that which measures the market for a specific product. Whenever the purchase or possession of one product is a necessary condition for the purchase of some other product, the purchase or ownership of the former may be used as a market index for the latter. For example, a family almost never buys a perambulator unless it includes, or soon will include a baby, so for the perambulator concern, birth registrations form a good market index.

There is also a danger in using a single index unless it can be justified as a relationship not due to chance. For instance, automobile registrations may properly serve as a single index to the potential sales of automobile tires in different territories, but they would be totally inadequate as a single index for potential sales of electric water heaters. However, the number of homes wired for electricity does furnish a single index for the sale of electrical household appliances. If a company can find a single market index to reflect sales, it is fortunate in having a relatively inexpensive means of setting quotas.

### Composite Market Index

Several market indices can often be combined to form a single market index. A company may use such an index to distribute the forecast to counties, trading areas, or other geographic divisions.

The chief problem is to combine the factors comprising a composite index in such a way as to give a single index of market values for each part of the market, such as county, district, or other division, giving

due weight to each of the several factors selected.

Steps which can be taken to combine the market factors into a single index are:

1. Each factor must be expressed in a form appropriate for the computation of a total, usually a percentage.
2. Weights must be assigned to the various component indices so that each will have an influence on the single index in proportion to its importance. The assignment of weights may be guessed, trial and error, or made by the multiple correlation method.
3. The weights are applied and through a summation and averaging process a single index is derived.

A manufacturer of lubricating equipment for the automotive trade uses the following factors to set quotas: motor vehicle registrations, number and dollar volume of sales through gasoline service stations, number and dollar volume of sales by car and truck dealers, number of automobile repair shops, number of automobile jobbing outlets, automotive parts manufacturers' sales volume to automotive jobbers, and shop equipment and tool manufacturers' sales volume to automotive jobbers. In addition to these figures, the company's past sales are used. A weighted index is derived by balancing the potential index and the past sales index through the use of a weighted average. This method has proved to be very satisfactory over many years.

### Correlation Analysis Method

Correlation analysis is a useful tool in selecting market factors and assigning weights to the market indices. Granted that no simple list of market indices can be offered having universal application, the problem is to select the factors which should determine the sales quotas.

The first step is to draw up a list of possible factors for which data are available.



The next step is to study each factor to determine its significance in relation to the problem by employing correlation analysis to select a usable group of factors. This method is based on the theory that, if certain factors are truly related to the sale of the product, such relationship will have existed in the past. Therefore, the best combination of these factors is one which most closely correlates with past sales of the industry. It is assumed that a relationship which has held true in the past will continue to hold true in the present and near future.

After the factors have been selected, each is converted into an index number. Most index numbers are a form of percentage. Now, the problem is to combine the indices, usually at least three, into a single index, giving each its proper weight in proportion to its importance. This is frequently done by guessing or trial and error, but use of multiple correlation will give each index its proper weight in the combined single index.

### **Apportioning Sales Quotas**

A quota for the sales department as a whole may be broken down into sales districts or territories, and finally into each individual salesman's quota. The process of dividing it is done both at the sales headquarters office and at district offices. That is, the sales headquarters office assigns each sales district a certain quota, and the district must then divide its own quotas among its salesmen.

Quotas may be established not only for salesmen but also for products. They may be set up for months or quarters or for each season. Here are the major possible breakdowns.

### **By Periods of Time**

All quotas call for a time limit, but this varies in different cases depending on such things as seasonal variations, prevailing business conditions, and frequency in which sales

management wants to measure salesmen's performance.

Some manufacturers put quotas on an annual basis. Generally speaking, however, the annual quota covers too long a period to permit more than approximate accuracy.

Other manufacturers put their quotas on a quarterly basis. When there is some seasonal variation it is advisable to apportion annual sales in relation to the proportion of total sales in each quarter during previous years. Quarterly quotas are most frequently used by industrial goods producers.

The monthly sales quota is often used by manufacturers. When quotas are broken down on a monthly basis, a method employed to apportion the annual quota is to apply seasonal indices to the total quota. Monthly quotas probably have a great effect on salesmen because they offer a means of periodic review. By the use of monthly quotas, the planning and production department of a manufacturing firm can increase or restrict the output of goods and thus avoid overproduction and keep inventories in balance.<sup>7</sup>

### **By Territories**

Practically all manufacturers must divide a total sales quota along territorial lines. First the sales area is broken down into large geographical sections. These, in turn, are cut into smaller segments the size of the sub-territory or district depending on many factors. Some companies even set quotas by counties and city blocks.

A frequently used method is to determine a territory's quota by figuring "from the top down" the amount of sales expected by the manufacturer during the period and then apportioning this amount among the various sales territories. Another method is the "built up method" which totals all the county quotas comprising the territory, or uses county statistical data to determine the territory quota.

Classification by territories is essential both for setting quotas and for checking sales performance against these quotas. Such territorial quotas are necessary to locate weak spots in the distribution of the company's products. They also show the company faults in its system and where to apply remedies such as adding salesmen, changing territorial boundaries, increasing advertising, and so on.

### By Products

Quotas may apply to the aggregate of all products sold or may be determined for individual products. It is usually advisable to divide the quotas into units for products in order to check whether salesmen are distributing their sales among the entire line of products, or merely concentrating on easy-to-sell items. A salesman might obtain a large volume of sales by pushing items on which little or no sales resistance is offered, but this may not be so profitable to the company as the work of another salesman whose over-all volume may be smaller but who has obtained a good volume on high profit items.

### By Individual Salesmen

Many companies using the quota system assign individual sales quotas to their salesmen. Some companies have more than one salesman in a territory. When this is the case, the territory quota is divided individually according to potential sales, previous sales, and capacity of the salesman.

In some respects, setting quotas for industrial salesmen and/or sales engineers is easier than for consumer goods salesmen. The market for industrial goods consists of a

definite, determinable, and relatively small number of buyers. In addition, there is a decided concentration of industrial plants.

### By Middlemen

A manufacturer selling through wholesalers, jobbers, or distribution has comparatively few accounts, as compared with a manufacturer who sells directly to retail outlets. Manufacturers not directly controlling the distribution of their products often help their middlemen in formulating quotas by furnishing them with data about the number of consumers and market conditions in the area. Many go still further and provide their distributors with sales helps, and prospective customer lists.

### Follow Up

Quotas must be acceptable to the individuals to whom they are assigned. One of the first problems, therefore, is to sell the idea of a quota to the sales force. After the sales force has accepted a quota, it is necessary to devise plans and methods for informing salesmen about their performance. The sales manager must keep the salesmen in his force interested in their tasks and must see that each attains his quota. He must encourage, advise and warn to get results.

If the sales quota system is to work effectively, it is necessary to see that the salesmen's time and effort are planned in large measure for them. Their territories must not be too large, either in area or number of accounts; their routing must be planned so that they can cover their territories effectively, and they must be given any other assistance necessary to help them make sales.

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## The Population Explosion— Its Implications for Business

JAMES GILLIES

*Don't let the bumper baby crop fool you. There are undercurrents in the population boom which are not so good for business. Among them are the prospect of a smaller labor force, an imbalance of youngsters and old folks to self-supporting adults, skyrocketing land values, permanent traffic jams, and continual migrations of a restless people still going west or leaving farms to try their luck in the big cities.*

Few assumptions are more important to the many optimistic forecasts of business activity during the "soaring sixties" than the proposition that the population growth of the past two decades will continue. Such assumptions automatically imply that the growth of population during the next decade is assured and that such growth is automatically good for business. While both assumptions may well be true, it is interesting to analyze some of the less obvious implications of population growth for business and to raise a few questions concerning the history of the accuracy of past population predictions.

In few, if any, areas of forecasting is the record of prediction poorer than in the field of population. A cursory examination of predictions of population growth made in the 1920's indicates that in general, forecasters consistently overestimated the rate of popu-

lation growth in the United States for the 1930's.

Similarly, an examination of population predictions made during the 1930's clearly suggests that forecasts made then consistently underestimated population growth during the 1940's, and even in the mid-1940's there were few demographers predicting a rate of population growth during the 1950's approaching the rate that actually occurred. The impact of these predictions on other types of economic forecasting is best illustrated by the important role that "population growth" played in Professor Alvin Hansen's "stagnation theory" which was so widely discussed during the 1930's.

The reason for the general inaccuracy of population predictions is that they are primarily based on current trends. Forecasting techniques range from the relatively unso-

phisticated extensions of rates of growth during the past ten years, or an average of annual rates of change to the complicated cohort-survival method and from the biologically inspired theories of Raymond Pearl to the economic and socially based work of Myrdall. Primarily, however, in spite of various theories, current population forecasts are an extension of current patterns.

There are various reasons for the extensive preoccupation of population forecasters with current forces in the economy, not the least of which is the fact that social patterns are not expected to change rapidly. During the period 1950-1960 the average age of girls at marriage has dropped appreciably and it is expected that this trend will continue. Since 1950 the birth rate has increased substantially and it is argued that this can be expected to continue. Such fundamental social forces are the result, it is suggested, of so many factors coming to bear on society at one time that such conditions can be taken as more or less permanent patterns. But are changes in social activities slow to develop? For example, is the change in marriage patterns influenced by so many things that it will not alter rapidly?

### **Recession Cut Birth Rate**

The evidence to indicate that these social trends are more temporary phenomena than permanent characteristics of the economy is not great, but there are indications. For example, in the recession of 1957, available data suggest that nothing changed more rapidly than the marriage rate. In spite of the studies showing a decline in the age of marriage and an increase in family formation, the marriage rate changed more during the recession than unemployment, capital investment, housing starts and practically all other major indicators of economic activity.

Similarly, in the recession of 1949 available figures indicate the same pattern. Moreover, the birth rate dropped equally rapidly in the two recession periods. Such data as are

available show that the rate of family formation decreased more between 1930 and 1931 than employment, incomes or stocks. In other words, social trends are apparently amazingly influenced by economic factors. Indeed, birth rates and rates of family formation seem to be more susceptible to changes in the economic climate than many other factors.

### **Economic Influences**

It follows, therefore, that simply because population increased substantially during the past two decades in the United States, there is no necessary reason to believe that it will continue to grow in the next decade unless the economic forces and factors at work in the 1960's are comparable to those determining economic conditions in the 1950's. In other words, population growth is more a result than a cause of economic growth. If levels of economic activity remain high, there is relatively little unemployment and personal incomes are high, population will continue to increase at or close to the rates of increase during the 1950's. If on the other hand there is an economic recession of any magnitude, then the rate of family formation and population growth will decline.

The preceding analysis of the accuracy of population forecasts should not be interpreted as meaning that population will not increase in the next decade. A study of the underlying forces indicates that population will indeed increase, and the increase will have important implications for business activity.

If it is assumed that the basic economic factors in the economy are such that population will continue to increase during the 1960's—and this appears to be a reasonable assumption—what will be the major changes in the composition of the population that will affect business? Clearly, they fall into two broad categories—changes in the age distribution of the population and changes in the geographical location of the population.

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### More Old Folks

The meeting of two divergent forces in American society is creating a new age-distribution pattern of the American people. First, the great advances in medicine, particularly in the field of geriatrics, mean that more people are living longer. As a result, the proportion of the American population over 65 is increasing and will continue to increase in the 1960's. It is estimated that in 1960 there are approximately 16 million people over 65 in this country. Between 1940 and 1950 the total population of the nation increased 13.5 percent but the population over 65 increased 35.2 percent. Between 1950 and 1957 the population of the nation increased 12.5 percent, but the population over 65 increased 21 percent. By 1970 there will be more than 20 million people in the United States over 65.

At the same time as modern medical science is extending life, the lower average age of marriage and the high rate of family formation is generating more life. In 1950, the average family size was 3.54 and by 1959, it had increased to 3.66. By 1970 the average family size may well be 3.9.

### More Children

As a result of the prolificacy of the American female there were 25% of the people in the 15 years or less age bracket in 1940, 27% in 1950 and 31% in 1959. When this is extended to the 20 years or less group the figures are just as impressive. By 1959, 38.5% of the population was less than 20 whereas in 1950 only 34.0% fell in this age bracket. By 1970, the medium Census projection estimates that the percentage will be more than 37%.

The result of the confluence of these two relatively independent factors is that in the 1960's there will be a greater proportion of the population over 65 and a greater proportion under 21 than ever before in the history of the nation. The corollary of this situation

is, of course, that there will be a smaller proportion in the age group 20-65 and yet this is the group which must produce the goods and services for the economy.

### Smaller Labor Force

In other words, during the 1960's a major impact of the population explosion will be a smaller labor force to support a larger population. Obviously, such a situation could well mean a lower standard of living for everyone in the nation unless (1) productivity per worker increases, (2) the number of hours worked per week is extended, and/or (3) the age at which members of the labor force retire is raised.

The implications of these conclusions are interesting. First, it is clear that every effort toward increased automation must be pushed. Only if individual workers can produce more will it be possible to maintain living standards, and the normal way of increasing output is to increase capital investment per man. The second alternative (or possibly compensating factor) is for all workers to work longer hours. While there is little likelihood that the mythical 40-hour week will be increased, it appears unlikely that the working week will be reduced. The 1960's will not be the decade of the four-day week. The age-distribution pattern is against shorter working hours unless the increase in technology is beyond current expectations.

There are many other implications of the new age distribution from a national viewpoint. Clearly, benefits for over 65 year citizens will be increased as their political power increases. However, by the mid-point of the 1960's it is probable that the demands for more aid to senior citizens will decline since by that time a much greater proportion of the group will have been actively employed in the late 1940's and early 1950's and therefore will have designed their retirement programs on the basis of World War II rather than 1930 price levels. The immediate problems of the over 65 group are cur-

rently compounded by the fact that so many of the group developed their retirement programs on a pre-1940 price level basis.

### Population Shifts

Probably one of the most significant social changes in the first half of the twentieth century has been the development of a high degree of mobility among the American people. The assumption of the classical economists that labor will move in response to changes in economic opportunity has been fulfilled to an unexpected degree. Today the United States is a nation of mobile people, and the movement is in response to changing patterns of economic activity throughout the country.

### Exodus from the South

The three basic migratory movements are (1) from the south to the north, (2) the east to the west, and (3) the farm to the city. In spite of the fact that a good deal of publicity has been given to the movement of industry into the south basically the south is losing population. Most of the migration is by members of minority groups into the northern industrial cities of Chicago, Cleveland, New York, Detroit and Philadelphia, and such movement is creating many problems, both for the migrants and the cities.

### Westward Migration

The movement from the east to the west is well known. California is the fastest growing state in the nation in terms of absolute number. Indeed between 1950 and 1960, while the population of the nation was increasing approximately 17 percent, California's increased by 45 percent. In fact, the increase in population in the Los Angeles-Long Beach metropolitan area—only one of the ten metropolitan areas in the state—has been greater than that of any other metropolitan area in the nation and even greater than the population increase of any state with the exception, of course, of California.

The fourteen southern California counties alone have on the average, since 1950, added 1,000 people to their population per day.

### Lure of the Big City

Perhaps the most significant of all the migration movements, however, has been from the farm to the city. Since 1950 it is estimated that 90 percent of all the population increase in the nation has taken place in urban areas. Seventy-five percent of the nation's population now lives on 7 percent of the land area and it is estimated that by 1970 the metropolitan areas of the nation will contain as great a population as lived in the entire country in 1940. As a result of this centralization of population, the suburban areas of cities have increased at a very rapid rate. For example, between 1940 and 1950 the suburban ring of metropolitan areas grew  $2\frac{1}{2}$  times faster than the central core, but between 1950 and 1960 the suburban area grew seven times faster than the core.

The population movements have had and will continue to have important impacts on marketing organizations and programs, but in addition they greatly influence, although perhaps less directly, other aspects of business operations.

While all the changing patterns of population have important impacts for business, perhaps none is more important than the urbanization movement and its effect on the use of land.

### Land Boom

The great centralization movement of population into smaller urban areas has, of course, meant that land has increased in value. Indeed, in many urban regions by far, the scarcest resource is land. Consequently, land prices have risen rapidly—in fact, so rapidly that many observers are concerned about the possibilities of a serious speculative boom in land. Actually, however, in most instances the high prices are more a consequence of great increases of demand

in the face of relatively fixed supplies than excessive speculation.

The high price of land has led to the need for a more effective use of land. Land has become too valuable to be wasted or to be used in anything but its highest and best manner. Consequently, it is not unusual to find areas of cities where land values have increased to such an extent that existing improvements can be replaced—even though they have economic life remaining in them—with more intensive types of developments. For example, in Hollywood many of the large single family homes have been removed and replaced by apartment houses, and in Los Angeles the large Twentieth Century Fox movie studio is to be developed with high-rise apartment houses and office buildings. It is certain that during the next decade great changes will take place in the structure of cities through more intensive use of land.

### Urban Renewal

It is also highly probable that more intensive efforts will be made during the next decade to redevelop older sections of communities under the auspices of both local and Federal redevelopment programs. No longer will it be economically feasible to permit well located land to be occupied by slums and blighted properties and extensive efforts will be utilized to clear such property. In addition, pressures on land planning and zoning officials will prevent overzoning or requirements of use too extensive in relation to actual needs.

It is unlikely, however, that even the most stringent programs of development, urban renewal and planning will be sufficient to solve the problems created by the urbanization movement. Such operations will have to be supplemented by programs to prevent congestion in already developed regions and to bring land in peripheral areas into closer contact with central cities.

Since population moves into areas of economic opportunity, clearly one manner of preventing additional urban congestion is to adopt policies and programs whereby economic opportunities are created outside of the major urban complexes. One way of doing this is to provide incentives for manufacturers to locate plants outside of the major metropolitan regions. Clearly, the great growth of the past decade in cities has been directly related to employment opportunities, so to the extent that these can be moved into less urbanized areas the rate of increase of existing centers can be slowed down.

In California, for example, such a policy would lead to the establishment of plants in cities other than Los Angeles, San Jose, and San Diego where some of the growth has been greatest.

Equally important as dispersion of plants for controlling population growth is the creation of effective transportation systems between and among cities. There is, of course, no shortage of land—only a shortage of land in close proximity to the central sections of communities. To the extent that effective transportation systems can eliminate the distance between cities in terms of the time that it takes to travel between them—and time is the important dimension—more and more land is made available for effective use.

In southern California during the past two decades considerable emphasis has been placed on the freeway system as an effective integrating system and it is planned that eventually a 600-mile network of roads will be completed. However, the great growth of population has raised the question of whether or not such a system can be as effective in the future as it has been in the past. For example, the Ventura Freeway which was opened in April, 1960 was considered by experts to be operating at capacity in May, 1960.

### Freeways or Mono-Rail?

If new freeways are completely utilized within a month after they are opened when the population of the region is 6 million, how effectively can they be expected to operate when the population is 12 million? Clearly, they must be supplemented with some type of inter-urban rapid transit system such as a mono-rail which can efficiently and rapidly transfer people from area to area. This, of course, is quite different from the normal concept of mass transit systems as a means of transporting people within the confines of a city. What will be needed is a system for moving people from one area of concentration to another.

In spite of all these activities—land clearing, improved transportation, plant location programs—it is certain that urban land will continue throughout the decade of the 1960's to be in relatively short supply. The continued urbanization of population with related increases in land prices will have an important impact on all types of land use—residential, commercial and industrial—with concomitant impacts on business.

### Land Costs Cut Building

It is interesting to note that between 1776 and 1934 about thirty percent of the American people were able to become homeowners but that between 1934 and 1960 another 30 percent gained their own homes so that the current level of homeownership in the United States is about 60 percent of all families. The tremendous increase in homeownership which was stimulated primarily by the FHA-insured and VA-guaranteed loan programs has led to the building of great numbers of single-family homes in the peripheral areas of urban regions. Some idea of the magnitude of the building boom is evidenced by the fact that in the Los Angeles metropolitan area alone in 1950 more houses were built than in the nation as a whole in 1933. In every year since 1950 more than

1 million housing units have been constructed and sold throughout the nation.

While the pattern of lending inaugurated by the FHA—long-term fully amortized relatively low-interest bearing loans—was a fundamental factor in encouraging this building, there is no doubt that mass building took place on relatively inexpensive land. In 1946 the "tract builder" planned on the basis of lot costs representing 10 percent of the total value of a completed house. By 1950 the proportion had crept up to 15 percent and at mid-point in the decade it was close to 18 percent. However, with current land prices, builders are finding it impossible to acquire and improve land for mass building (4.5 units per acre) at less than 25 percent of the price of the finished house. Since 1950 it is estimated that raw land prices near urban centers have increased by 112 percent.

As a result of high land prices builders are inclined to build more expensive homes, in order that the land element of costs be kept at a proportion which will permit the completion of high quality products. However, in doing so they are building for a smaller market and forcing many potential lower-income home purchasers to buy older homes or to rent. Consequently, one of the implications of the rapid rise in land prices for the 1960's may well be that the total proportion of home-ownership in the nation will decrease. In turn, this means fewer houses built in relation to population increase although it may not mean less in terms of dollar volume of construction. However, fewer units can have a dramatic impact on sales of certain types of furnishings and appliances.

### Houses vs. Apartments

A corollary of this type of development, of course, is the construction of a larger number of apartment units. If the proportion of homeownership goes down, the proportion of renting must go up and this implies more apartment occupancy. It is not unlikely that as the 1950's have been the decade of single

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family construction, the 1960's may be a decade of increasing apartment house building.

Since the end of World War II commercial operations have changed dramatically. With the increased urbanization of the population, the rapid increase in the use of the automobile, and the inabilities of older sections of communities to cope with increased volumes of traffic, a greater and greater volume of commercial trade has been taking place in shopping centers. These centers, which vary in size from small neighborhood developments of five acres and 40,000 square feet of selling space built around a supermarket to gigantic regional centers of 100 acres and 500,000 square feet of selling space built around a department store, have been a dominant factor in retail trade in the post World War II period. Indeed, it is estimated that over 3,000 major centers have been constructed since the end of the war.

There is little evidence in any of the current trends on development and growth to indicate that this pattern is changing. More and more retail trade is moving to centers from downtown areas and it is probable that increasingly downtown areas will serve as centers for financial, governmental and cultural operations. As a result, the marketing and distribution pattern of retail suppliers is sharply changing and will continue to change throughout the next decade.

### Zoning Codes Change

The increased mobility of the American people has greatly reduced the need for industries to locate in relation to the labor market. In fact, the reverse situation is true. An industry located in an attractive community can expect to attract a labor force to that community. One of the dominant factors in industrial site selection has become, therefore, the nature of the community in which the plant is located. Manufacturers have discovered that the most important factor in eliminating labor turnover is a location in a

pleasant community where the employees are pleased with the schools, shopping facilities and recreational activities. As a result, those communities that are well planned and well designed are in a superior competitive position for attracting new industry, and this in turn has meant that many industries are moving to suburban locations.

A result of this development is a redesigning of many zoning codes. In the past it was always considered essential to carefully segregate industry from other types of land-use, particularly residential, since it was believed that industrial land automatically reduced the land value of other types of properties. With the modern architectural design of new industrial plants, it is now apparent that the inter-mixing of industrial and residential land-use is not only not undesirable, but indeed may be very worth-while. How much more attractive is it for an industrial worker to be able to walk to his place of employment rather than competing with traffic? Indeed, the inter-linking of residential, commercial and industrial development is certain to be an important part of the planning of the future.

Evidence of these trends is already apparent. The "industrial park" in suburban communities is an important element in development programs and its use is certain to be extended. As a result the industrialist looking for a plant site may well now be forced to consider areas that a decade ago would be thought to be much too far from other plants, labor force and other facilities. The urban growth is creating a new pattern of industrial development.

Similarly, at the other end of the spectrum, the clearance of land in central sections of communities is opening up many new possibilities for location of industries on central sites. Industrial location experts cannot ignore the impact of redevelopment programs on the supply of potential sites for certain types of industries.



The tremendous increase in the urban population of the nation has important implications for business, as mentioned above, but it also has very important social implications. Certainly, in terms of creating a pleasant environment within which the population lives, works and plays the impact of growth cannot be ignored. With land prices forced upwards it is much more difficult to maintain open areas for golf courses, parks and playgrounds. Indeed, it is even difficult to provide effective sites for schools. With growth, pressure for intensive development increases and land-planning is placed under considerable strain.

Business enterprises cannot afford to ignore these problems. The environment within which employees work has an impressive impact on labor turnover and morale. Perhaps equally important, the environment

within which young people grow up and develop has an important impact on their social attitudes and behavior.

These are matters of concern to American business and therefore it is an obligation for business to take an active position on problems of urban redevelopment, planning, and land-use. Without the support of business, it is impossible for planning and zoning commissions to maintain the standards that they need, or indeed develop standards, for assuring the orderly development of American communities.

The pressures of growth create tremendous problems but every problem brings with it equal opportunities. When history evaluates the success of the current generation it will do so not only in terms of how well it solves its problems, but also in terms of how well it lived up to its opportunities.

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# Stock Dividends are Lemons, Not Melons

STEPHEN H. SOSNICK

*While stock dividends sound glamorous and warm the hearts of uninformed investors, the truth is that they are a wasteful method of reducing surplus, beneficial, perhaps, to marketwise insiders, but costly to stockholders and the firm that declares them. This article analyzes the cost of the average melon.*

Half the battle over the issuance of ordinary stock dividends by publicly held corporations (common on common, with a debit to surplus) has been fought and won. They are not "melons" in theory or in the eyes of the tax collector. The other half has not yet been joined. Are they actually burdens to the recipients? It is the purpose of this paper to show that they often are.

The argument has two parts. First, ordinary stock dividends carry effects that are unfavorable to the common stockholders. These effects can be summarized by saying that stock dividends (a) reduce the surplus available for future cash dividends, (b) require adjustment of previously reported data, (c) cause the corporation substantial expense, and (d) considerably increase the recipients' transaction costs.

Second, under certain circumstances, such dividends may also carry effects that are favorable to the recipients. These are primarily (a) an increase in cash dividends and (b) a gain in convenience and value from finer division of the units of ownership. But these effects, when relevant, could often better be accomplished by other means—most notably by a stock split.

## Tax Problems

Various aspects of both points are well known. However, they seem always to be mentioned as reasons for rejecting the popular view that stock dividends are gains, rather than brought together as reasons for

taking, not a neutral, but a contrary position.<sup>1</sup> Conversely, the neutral position seems invariably to be attacked from the "melon" viewpoint.

The latter underlay the dissent of Justice Brandeis in the leading case on taxation of stock dividends—*Eisner v. Macomber*, 252 U. S. 189 (1920). A few words about Brandeis' argument may clarify some of the issues discussed in the pages that follow.

Brandeis argued that a stock dividend is equivalent to a cash dividend that is applied to a privileged subscription, and should be taxed equivalently. The two are indeed parallel, but the moral—if one insists on consistency in substance, not form—is not to tax the stock dividend, but to refrain from taxing the cash dividend. This was the conclusion of A. C. Whitaker, who, more than thirty years ago, analyzed the question incisively in *The American Economic Review*.<sup>2</sup>

## Share Values Really Decrease

Whitaker pointed out that the grounds for treating an ordinary stock dividend differently from an ordinary cash dividend are not that the latter increases the stockholders' assets and the former does not; in both cases the value of the previous share holding decreases correspondingly—if not exactly correspondingly, at least with a discrepancy that cannot be measured by the dividend.

Rather, the grounds are that cash dividends (and, less clearly, property and bond dividends) are a convenient criterion of when

a stockholder realizes gains but stock dividends are not. "Funds remaining with your corporation are subject to the claims of its creditors and the risks of its business and the policy of its directors. They are not in your control," Whitaker points out.

It "is upon the occasion of the passing over of the profits to the shareholders that income to the latter arises, which is a way of saying that cash dividends (at least cash dividends from profits) are income to the shareholder despite the fact that they do not increase the shareholders' net worths or net estates." Stock dividends "likewise fail to increase the recipient's net estate... for there is only a mock transfer of value to him."<sup>3</sup>

"If appreciation of A's capital interest is income to him, . . . it does not take the gesture of a stock dividend to make it income."<sup>4</sup> But why does the gesture not suffice, he continues, "as marking the point in time at which corporate income is to be recognized by shareholders?"<sup>5</sup> Because, to condense this author's reasoning, (a) there is no real change in any entity's assets, (b) a split is equivalent and would not be so regarded, and (c) the debit to surplus is a poor indicator of the appreciation in value of the stockholding.<sup>6</sup>

Note, however, that in this view cash dividends are either no gain whatever (since the gain has already occurred, to the stockholder, by appreciation of his holding) or else (if cash transfers are used as the criterion of when the gain constitutes "income" to the stockholder) a capital gains transaction, equivalent to sale to the corporation of part of the shares owned plus receipt of the shares back through a stock dividend.

Of course, adopting this view in conjunction with the prevailing method of taxing capital gains would further reduce taxes on property incomes. But the prevailing treatment of stock dividends and cash dividends is explained by reference to separate entities and realized gains in income accounting, and by a decision not to confer the capital

gains tax rates on property income when it is realized in the form of cash dividends.

### Reduction of Surplus

Any discussion of the unfavorable effects outlined above falls naturally into four principal categories. The first is that stock dividends represent a reduction of surplus. Stock dividends involving a debit to a surplus account that can lawfully be debited for cash dividends will reduce the surplus available for future cash dividends.<sup>7</sup>

Of course, it may turn out that the corporation is never short of chargeable surplus. Surpluses may rebuild; there may always be more than enough to cover the cash dividends that the directors would choose to declare; and there are certain shrewd ways of creating usable surpluses.<sup>8</sup> Nevertheless, the tendency is in this direction. If surplus is not plentiful in the future, the devices to create it are neither costless nor polite, and cash dividends are likely to be cut.

The directors, however, may desire to reduce chargeable surplus. Why? One reason is precisely in order to forestall demands by stockholders for cash dividends. Another reason is to improve credit standing when mere protective provisions would not suffice. A third reason is emphasized by W. A. Paton and W. A. Paton, Jr., who state in their book on Corporation Accounts and Statements that the "situation is clarified if the decision to retain earnings is given legal and accounting sanction."<sup>9</sup>

These reasons, where applicable, should not be viewed as an advantage of stock dividends. At best, they would negate one disadvantage. I say "at best" on two grounds. First, for at least the second purpose just mentioned, a stock dividend would be self-defeating if a positive rate of cash dividends per share is maintained.<sup>10</sup> Second, there are other ways to accomplish a reduction in surplus which are less costly and/or more reversible. These alternatives merit brief comment.

## The Right Way

By a charter amendment or even a mere resolution, the directors could transfer some earned surplus either to formal capital (by increasing par or stated value) or to capital surplus. "For example, section 1903 of the California Corporations Code states that 'the stated capital of a corporation may be increased from time to time by resolution of the board of directors directing that a portion of the surplus of the corporation be transferred to the stated capital account.' This power to 'capitalize' surplus at will is a more flexible and straightforward means of reflecting 'forced reinvestment' than the more formal stock dividend with its misleading implications and overtones."<sup>11</sup>

There is also the alternative of creating surplus reserves. Paton and Paton scorn this "supplementary and relatively insignificant alternative... 'Reserving' earnings as compared with outright capitalization has the advantage of simplicity of procedure and also affords opportunity for revision of policy.... On the other hand, actual capitalization is a reasonable and sound procedure where the decision has been made, for the long pull, to build up invested capital through retention of income, and there is probably less danger of misunderstanding with respect to practical dividend possibilities...."

"Subdivision of retained earnings," they continue, "... becomes definitely objectionable, moreover, when the purpose is to... make possible a resurrection of buried earnings when current conditions are unfavorable and those in control wish to keep up appearances."<sup>12</sup>

Maintaining appearances is one way to put it; another way is to say that if stockholders would later be eliminated in a reorganization or liquidation in any event, they might first have had the consolation of another cash dividend if surplus had merely been reserved instead of transferred.<sup>13</sup>

## Adjustment of Reported Data

Stock dividends are confusing and will require adjustment of previously reported per-share data that might otherwise not need correction. The adjustment "would vary from one that you can do in your head to one that would necessitate extensive IBM undertakings. Also the job would depend on how far back you want to go."<sup>14</sup> Much of the physical burden here falls on the various reporting services.

That is, much of the cost here is social, not private, whereas in the case, for example, of increased transfer taxes, there is a private but not a social cost. Nevertheless, stockholders as a group probably bear such costs indirectly, in the form of higher prices for their publications and higher commissions for their transactions.

The company's own stockholders bear directly the pain involved in correcting data in their own records and in mentally adjusting per-share information that was published before the latest stock dividend was "paid"—or else in being misinformed.

## Costly to Corporation

A corporation issuing a stock dividend will incur up to ten kinds of expense. The major ones are (1) use of officers' time, (2) handling of fractional shares, (3) issuing of certificates, (4) revision of the stockholders ledger, (5) mailing costs, (6) miscellaneous supplies, (7) increased franchise taxes, (8) charter amendment, (9) stock issue tax, (10) listing fees.

To express these costs in money terms is a difficult and often arbitrary process, but one worth undertaking in order to have an idea of the amount of money at stake. Suppose we estimate costs for a two percent increase in the number of shares, and for a large, but not outstandingly large, corporation such as the Dow Chemical Company. A conservative estimate of the total is \$200,000, or about \$2.50 per stockholder or 0.7 cent per old share. The cost of a 200 percent increase is

TABLE 1  
CONSERVATIVE ESTIMATE OF THE COST OF STOCK DIVIDENDS

	Two Percent			Five Percent			200 Percent			500 Percent		
	With 26.6 Million Shares and 80,000 Shareholders	Per Old Share	Per Shareholder	With 26.6 Million Shares and 80,000 Shareholders	Per Old Share	Per Shareholder	With 26.6 Million Shares and 80,000 Shareholders	Per Old Share	Per Shareholder	With 26.6 Million Shares and 80,000 Shareholders	Per Old Share	Per Shareholder
1. Officers' time.....	\$ 1,000*	\$0.0000	\$0.01	\$ 1,000*	\$0.0000	\$0.01	\$ 10,000*	\$0.0004	\$ 0.13	\$ 10,000*	\$0.0004	\$ 0.13
2. Fractional shares.....	110,000	0.0041	1.38*	107,000	0.0040	1.34*	.....	.....	.....	.....	.....	.....
3. Certificates.....	35,000	0.0013	0.44*	35,000	0.0013	0.44*	100,000	0.0038	1.25*	100,000	0.0038	1.25*
4. Ledger revision.....	19,000	0.0007	0.24*	19,000	0.0007	0.24*	56,000	0.0021	0.70*	56,000	0.0021	0.70*
5. Mailing costs.....	3,000	0.0001	0.04*	3,000	0.0001	0.04*	3,000	0.0001	0.04*	3,000	0.0001	0.04*
6. Supplies.....	6,000	0.0002	0.08*	6,000	0.0002	0.08*	25,000	0.0009	0.31*	25,000	0.0009	0.31*
7. Franchise taxes.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8. Amendment.....	.....	.....	.....	.....	.....	.....	3,000	0.0001	0.04*	3,000	0.0001	0.04*
9. Issue tax.....	14,000	0.0005*	0.18	34,000	0.0013*	0.43	474,000	0.0178*	5.93	593,000	0.0223*	7.41
10. Listing fees.....	3,000	0.0001*	0.04	9,000	0.0003*	0.11	340,000	0.0128*	4.25	851,000	0.0320*	10.64
Total Corporation Cost.....	191,000	0.0070	2.41	214,000	0.0079	2.69	1,011,000	0.0380	12.65	1,641,000	0.0617	20.52
11. Nuisance value.....	16,000	0.0006	0.20*	16,000	0.0006	0.20*	8,000	0.0003	0.10*	8,000	0.0003	0.10*
12. Transfer taxes.....	19,000	0.0007*	0.24	48,000	0.0018*	0.60	1,915,000	0.0720*	23.94	4,788,000	0.1800*	59.85
13. Commissions.....	5,000	0.0002	0.06*	8,000	0.0003	0.10*	160,000	0.0060	2.00*	360,000	0.0135	4.50*
14. Odd lot differentials.....	15,000	0.0006	0.19*	45,000	0.0017	0.56*	(475,000)	(0.0179)	(5.94)*	(500,000)	(0.0188)	(6.25)*
Total Shareholder Costs.....	55,000	0.0021	0.69	117,000	0.0044	1.46	1,608,000	0.0604	20.10	4,656,000	0.1750	58.20
Grand Total.....	250,000	0.009	3.10	330,000	0.012	4.20	2,600,000	0.098	33.00	6,300,000	0.24	79.00

\* Primary figure to use in estimating cost to other corporations.



conservatively estimated at about 1.0 million dollars for Dow, or about thirteen dollars per stockholder or four cents per old share. These and other totals, together with itemization, appear in Table 1. The supporting analysis appears in the appendix.

### High Cost to Recipients

Recipients of ordinary stock dividends will incur up to four kinds of expense: (1) nuisance value, (2) increased transfer taxes, (3) increased brokers' commissions, (4) more odd lot differentials.

I have again attempted to obtain some idea of the magnitudes involved. For a two percent increase in shares, a conservative estimate of the total is \$50,000 for a corporation such as Dow, or about 70 cents per shareholder or 0.2 cent per old share. For a 200 percent increase, the figures are 1.6 million dollars, or 20 dollars per stockholder, or six cents per old share. These and other figures appear in Table 1.

Supporting analysis appears in the appendix, and includes discussion of the power of different large dividends or splits to round out odd lot holdings.

Suppose we add together the cost to the corporation and to the recipients. As Table 1 indicates, a conservative estimate of the amount at issue with a two percent dividend is three dollars per stockholder, or one cent per old share, or a quarter of a million dollars for a corporation such as Dow. With a 200 percent increase in shares, the magnitudes are thirty dollars per stockholder, ten cents per old share, or for Dow, 2.6 million dollars.

Totals for other corporations might be estimated from the following equation, which approximates the four grand totals in Table 1 rather closely:  $T = 22 + 2.05H - 0.0062HP + 2.33C + 0.47CP$ , where  $T$  represents total cost in thousand dollars,  $H$  represents the number of shareholders in thousands,  $C$  represents the number of common

shares in millions, and  $P$  represents the percentage increase in shares.

The cost burden is not crippling, and even appears rather small when expressed per old share. Nevertheless, such cost is hardly negligible, and to it must be added the reduction of surplus and the adjustment of reported data.<sup>15</sup> These considerations should suffice to put a burden of proof on those who claim that a stock dividend would be beneficial.

### Supposed Benefits

There are two principal ways in which stockholders supposedly benefit from stock dividends—increased cash dividends and greater convenience and value—and several related minor ways, which are mentioned en route. We shall see that there are other ways to confer these benefits, and reasons to prefer these other ways.

A small stock dividend is often, because of the well-known practice of stabilizing cash dividends, associated with maintenance of the rate of cash dividends per share and therefore, starting the following period, with an increase in total cash dividends. Let us consider this contention in its own context—that is, assuming that cash dividends are being paid, that the stock dividend does not substitute for an immediate increase in cash dividends, and that the increase in cash dividends is to the advantage of all stockholders.

### Stabilizing Dividends

There is an obvious alternative to maintaining the cash rate per share and increasing the number of shares by some proportion. It is, starting next period, to increase the cash rate by the same proportion.<sup>16</sup> Indeed, this alternative has the advantage of introducing a change in the company's record that remains visible even on a per-share basis.<sup>17</sup>

True, the stock dividend would, in effect, announce the change one period sooner. But this too can be accomplished without a stock

dividend if the board indeed wants to commit itself. An announcement would suffice. A scrip dividend might also be considered, or, more permanent, a bond dividend—perhaps subordinated income debentures; interest paid on either of these would, in general, be deductible.<sup>18</sup> At minimum, there is also the alternative of a stock split of equal magnitude instead of the stock dividend; we will compare the two shortly.

### Greater Convenience and Value

Stock dividends produce a finer division of the units of ownership. Up to some point, this supposedly will tend both to be convenient to stockholders and to increase the value of pre-existing holdings.<sup>19</sup>

Greater convenience supposedly results from a lower price per share. Then amounts of money can be raised or invested either more exactly or with less resort to odd lots. In special cases a lower price per share may also facilitate sale of new shares or simplify certain aspects of intercorporate mergers. It has also been said that it is better for public relations to keep per-share profits "low"—especially in the case of public utilities.

### Insiders May Anticipate Effect

The putative increase in value may appear gradually, or it may roughly be reflected immediately as investors anticipate long-run developments. (There is some evidence that the entire increase, if any, occurs prior to the public announcement; this suggests that insiders anticipate any long-run effect.<sup>20</sup>)

The long-run increase supposedly occurs because demand for the shares decreases less than proportionately. This occurs because some investors may not be aware of the dilution, because more people will now be able to afford to buy one share or to stretch to a round lot, because there are widespread feelings that high-priced shares decline more rapidly and rise more slowly than low-priced shares and that high-priced shares are suit-

able only for persons of large means, and because wider ownership of the company may improve its sales.<sup>21</sup>

It may also occur that the supply of the shares increases less than proportionately. This may occur because, if the number of stockholders will be larger at a lower price and if tenacity will be greater with a larger number of shareholders, less of the equity would be offered per period.<sup>22</sup>

### Point of No Returns

The point up to which these effects will occur is often said to be reached when price per share has been driven down to about 10-25 dollars. Further reductions supposedly would add little in convenience and in fact affect value adversely, by raising doubts about the investment quality of the shares and by impairing their standing as collateral.

Within such limits, the effects are plausible. That an increase in value will result seems possible, especially when price per share was very high (say above \$200), although it has not clearly been confirmed or quantified by statistical analyses.<sup>23</sup> Equally, a gain in convenience seems reasonable, especially with respect to very high prices per share, although the gain is hard to evaluate.<sup>24</sup>

There is considerable appeal in the idea that corporations whose marginal earning power is "high" (how high, is a separate and complicated question) should retain all their earnings; they could, to quote one observer, then "simply split their stocks into shares of conveniently small value, so that each stockholder could in effect declare his own dividends by selling that portion of his holdings which he chose. . . ."<sup>25</sup>

### "Gains" Tax Advantage

This policy would be predicated on the idea, advocated by Modigliani and Miller,<sup>26</sup> that the only significance of cash dividend policy to the stockholder is to determine how much of the earnings of the firm will accrue to him in the form of cash and how much in

the form of capital gains or losses. If this is the only significance, tax considerations and the cost of reinvestment of cash received would lead many stockholders to prefer greater capital gains instead of cash dividends, and the policy would give them their choice.

On the other hand, there are two opposing ideas. One is that the price of a share reflects the present value of the cash expected to be received on it in the future. The other is that small investors would encounter a six percent commission when they wanted to declare their own dividends by selling some shares. In any event, for present purposes it should be observed that the proposal favors, not stock dividends per se, but a low price per share, for convenience.

### Time Lag

Both greater convenience and greater value, then, may follow. Notice, however, that the supporting reasons imply that the gains increase with the size of the stock dividend up to the specified limit. The argument supplies little reason for increases in the number of shares of the order of two percent. There is one exception; investors' unawareness of dilution probably weighs more heavily with small dividends.

Presumably (and it is a presumption) there is a tendency for price per share ultimately to adjust proportionately; small differences in the number of shares should not alter the equilibrium value of a firm. But with lags in awareness, the tendency may take some time to be substantially worked out—perhaps one reporting period if adjusted data are published at that interval.

Thus, it might take a year after a two percent dividend before price per share reaches 50/51 of what it otherwise would have been. If so, a semiannual two percent increase in the number of shares might cause a permanent increase in value of about two percent (perpetually, not per period).

Several things should be noticed about

this gain. First, it presupposes that investors will not eventually comprehend the semiannual dilution and adjust previously reported data accordingly. Second, if the semiannual installments were interrupted, perhaps because surplus runs dry, the two percent improvement would decay despite all the costs of creating and maintaining it and the fact that later generations of stockholders would have bought while price was inflated.

### Mortgaging the Future

Third, the gain would accrue primarily to the persons who owned shares at the time the policy was initiated; later generations would bear the cost of semiannual installments but gain only if the extra two percent they sold for represented more money than the extra two percent they bought at. And not even the original shareholders would directly gain unless they sold out—that is, unless they severed part or all of the very connection that makes their interests a matter of concern to management.

For original stockholders who do not sell out, the semiannual costs would accumulate; ultimately, unless the value of the corporation rose fairly rapidly, these costs would outweigh the two percent gain if it were ever realized. Of course, byproduct gains, such as greater convenience, may occur as the increases in number of shares add up. But these could more cheaply be obtained by occasional large increases in the number of shares—for example, by a 100 percent dividend every, say, seventeenth year.

### "Fooling the Public"

These considerations are not conclusive; nevertheless, they seem to me sufficient to warrant a categorical rejection of occasional or periodic small stock dividends (or splits) aimed at fooling most of the people all of the time—unless the directors want to benefit a few insiders who plan to sell out.

The third of these considerations would

apply also to an occasional large stock dividend (say 100 percent or greater), although with diminished force, since the cost of a given increase in the number of shares would be substantially less, especially if the split ratio is chosen to round out odd lots and to reduce the odd lot differential.

### Other Ways to Split Stock

But suppose that price per share is very high, that the directors want to benefit those who would sell out or to broaden ownership, and that they believe that an increase in the number of shares would do so. Even so, a stock dividend is not necessarily indicated. There is another way—a stock split of corresponding magnitude.

While a split would be equivalent with respect to its impact on convenience and price, it may offer some definite advantages in four other directions. First, unlike a stock dividend, a split would not increase stated capital and with it, sometimes, franchise taxes.<sup>27</sup> Second, similarly, if the shares have a par value, the split would leave unchanged the aggregate par value associated with a given proportionate interest in the company, and with it the transfer taxes levied by states that base their transfer taxes on the aggregate par value sold.<sup>28</sup> Third, a split would not reduce surplus and with it potential cash dividends (and the split could be undertaken even when negative surplus or negative profits would prevent a stock dividend).

### Exchange Regulations

At least surplus would not be reduced except as required by state law, a regulatory commission, or a stock exchange.<sup>29</sup> Thus, the New York Stock Exchange will not authorize listing of the additional shares even from a split unless an amount equal to the fair value of the shares is transferred from earned surplus—this qualification applying, however, only if the number of shares is increased less than 25 percent.<sup>30</sup> Fourth, if preferred stock

is outstanding—especially preferred with voting rights or rights to participate in dividends or assets beyond any preference—the question may arise whether the preferred shareholders are legally or morally entitled, because of either pre-emptive or participation rights, also to receive additional shares. The answer may be clearer in the case of a stock split.<sup>31</sup>

On the other hand, a split may have two disadvantages compared to a stock dividend. (1) Stockholders usually are sent not only a second stock certificate, but also a stamp to affix over the nominal value stated on the old certificates, this procedure involving less trouble and delay than does recalling the old certificates; a similar change is involved for the inventory of unissued certificates, stamping by The American Bank Note Company costing about two cents per certificate.

This trouble occurs if the shares have a par value (as do about two-thirds of the common issues listed on national exchanges<sup>32</sup>), or if, anomalously, a stated value appears on the certificates for no-par shares. (2) In the case of either par-value shares or no-par shares with a stated value in the corporation's charter, it would be necessary to amend the charter each time a split is to occur, instead of merely when authorized but unissued shares run low, as is the case with stock dividends. A charter amendment is costly (\$3,000—or possibly \$20,000—for our example, Dow), and it might be vetoed by the preferred shareholders if they would suffer dilution.

These disadvantages are not conclusive. Neither stamping nor amendment is a major expense. Moreover, amendment would often be needed for a stock dividend too—and even more often should be needed in view of the extra franchise taxes that may be produced by authorized but unissued shares. Most important, neither stamping nor amendment could be a differential burden in the case of "true" no-par shares.



## Implications

In the case of corporations with true no-par shares, there would seem to be no reason for directors who are concerned with the welfare of the stockholders ever to declare a stock dividend. This statement is qualified by the fact that a stock dividend is equivalent—but not preferable—to a stock split in one set of circumstances: where either one would have the same effect on franchise taxes, where either one would have the same problems with dilution of other securities, and where either one would have the same effect on surplus that is chargeable for cash dividends (because either a regulatory institution or the directors themselves insist on reducing surplus).

Given other circumstances, the board should choose, not a stock dividend, but a stock split if it wants to increase the number of shares, either alone or in conjunction with an increase in total cash dividends.

But a decision to increase the number of shares, even by a stock split, should be made only if the benefits appear likely to outweigh the burdens. The potential benefits are greater convenience and value, and possibly conversion of odd lots, a lower odd lot differential, better public relations, wider ownership, less instability, easier capital-raising, listing on an exchange, less "piracy," and some dilution of other securities. However, it seems unlikely that these various benefits would in fact outweigh the burdens unless price per share is very high—say above \$200—and is to be brought into a popular price range. That the benefits would predominate if this condition is met is plausible, but a matter of conjecture.

The particular split ratio chosen should attempt to maximize the net benefit. This implies three things. First, it implies choosing a whole number for the split ratio, not a ratio such as 5-for-2. A whole number simplifies calculations, facilitates adjustment of reported data, avoids fractional shares and cre-

ating odd lots in existing round lot holdings. Second, it implies choosing a whole number that has the power to round out existing odd lots, not a ratio such as 3-for-1.

Third, it implies choosing a ratio that is large enough to realize side benefits. The power to convert odd lots is greater, the larger the ratio chosen, provided the choice is confined to the basic ratios mentioned in the appendix with a 100-share unit of trading, they are 2-for-1, 4-for-1, 5-for-1, 10-for-1, 20-for-1, 25-for-1, 50-for-1, and 100-for-1.

## Choosing Proper Split Ratio

Furthermore a ratio large enough to bring price per share below \$40 would reduce the odd lot differential, and a ratio large enough to bring price below \$20 would reduce the rate of the New York stock transfer tax. On the other hand, certain burdens also increase as the ratio grows. Franchise taxes and listing fees may increase; the New York transfer tax relates to the number of shares; commission charges increase relative to sales proceeds as price per share falls; and there is a feeling that price per share should not be "too low."

While most of these considerations are quantifiable, they cannot in the abstract be weighted to determine an optimum split ratio for shares of given prices; their importance depends on circumstances such as the state of incorporation, the proportion of odd lot holdings, and the proportion of transactions larger than the minimum shareholding whose commission is affected by different split ratios. It can be said, however, that the basic split ratios provide a sufficiently varied set of alternatives that one of them should fit any particular situation.

On the other hand, splits or stock dividends under 100 percent, whether occasional or periodic, should be avoided (unless stockholders' wishes are given precedence over their welfare or the goal is to benefit some insiders who want to sell out). Direct benefit



from small increases in the number of shares—from investors' unawareness of dilution—will be short-lived if the action is occasional or quite expensive if it is periodic.

Indirect benefits can better be accomplished separately. That is, if merely an increase in total cash payments is desired, an increase in the cash rate per share should be announced, or perhaps a scrip or bond dividend declared. If merely retention of earnings or a substitute for a cash dividend is desired, a syrupy letter should be preferred. If merely a reduction in surplus is desired, purely accounting action should be taken. If merely an eventual large increase in the number of shares is desired, an occasional large split should be undertaken.

In the case of a corporation with either par value shares or no-par shares with a stated value in the charter, the same considerations apply to a desire merely to increase cash payments, or to give the stockholders a substitute for cash, or to reduce surplus; there are less costly ways than by increasing

the numbers of shares. Similarly, occasional or periodic small increases in shares are not melons and should be avoided. And here, too, no strong case can be made against substantially reducing a high price per share by a well-chosen round number multiplication of the number of shares.

In choosing between the two methods of accomplishing a large increase in the number of shares, however, it is possible that here a stock dividend would be less burdensome than a stock split. If a charter amendment need not be undertaken, the dividend will have in its favor avoidance of the process of amending. The dividend would also, in the case at least of par value shares, avoid the use of stamps for the old certificates. The split may have in its favor effects on franchise taxes, on earned surplus, on dilution problems, and, in the case of par-value shares, on certain states' transfer taxes. The balance will depend on the firm's circumstances.

## APPENDIX

**Corporation Costs and Recipient Costs**

**Corporation Costs.** For a number of items I have relied on data that were kindly furnished me by the Dow Chemical Company and by a company that wishes to remain anonymous. The figures for Dow came primarily in a letter of February 15, 1960, from Mr. D. N. LeVert of the company's Treasury Department, the information pertaining to a two percent stock dividend and to a 3-for-1 stock split, the latter being equivalent for the present purpose to a 200 percent stock dividend.

Mr. LeVert stated that "The cost of the stock dividend is reasonably accurate for it is based on an actual stock dividend just recently [November 1959] paid. The stock split costs are only estimates based on today's cost and could be either slightly higher or lower." The figures for Corporation Anonymous came in a letter of March 18, 1960, from the company's treasurer. They indicate, to the dollar, expenses incurred by Anonymous in connection with a recently issued five percent dividend.

**1. Officers' Time.** A stock dividend requires action by the highest officials of the corporation and therefore consumes their time. To assign a figure here is especially arbitrary, and Anonymous made no attempt. Dow lists \$1,000 for the two percent increase in shares and \$10,000 for the 200 percent increase. The difference is plausible; a large increase in shares is likely to be less frequent and more debated than a small increase. Furthermore, the cost probably is substantially independent of the exact size of the small or the large increase—and of the size of the company. Let us simply indicate the magnitude involved with any small increase as \$1,000, and with any large increase as \$10,000.

**2. Fractional Shares.** A stock dividend not in a multiple of 100 percent involves trouble with rights to fractions of a share. Sometimes stockholders are given cash equivalent to the fractions, in which case the corporation bears the expense of calculation and check writing. Sometimes warrants are given, made out to bearer and transferable by delivery, which the corporation or its transfer agent may for several years redeem for cash, accept with cash for a whole share, or maintain a market for—the corporation bearing the expense of calculation, printing, and redemption.

Sometimes the corporation gives stockholders order forms, with envelopes, on which to instruct the corporation or its transfer agent whether to sell the fractions or to buy the complements, any imbalance of orders being balanced by stock market transactions.<sup>23</sup> Both Dow and Anonymous followed this third route, and both indicate the cost of handling fractional shares as the largest single item in the cost of a small dividend: \$110,000 for Dow, \$24,456 for Anonymous.

The figures correspond nicely. Anonymous has about one-fourth as many stockholders as Dow, which has somewhat more than 80,000. Furthermore, a five percent dividend involves fractional shares for 95 percent of the possible stock holdings, as against 98 percent for a two percent dividend. Even the small discrepancy that may remain can be reconciled; it can be attributed to the fact that the cost stated for Anonymous includes only the fee of the transfer agent, not any part of the \$8,432 spent for clerical assistance at the company's offices. We may put the rate per stockholder, then—with exaggerated accuracy—at \$1.38 for a two percent dividend and at \$1.34 for a five percent dividend, expecting that the cost would vary among corporations about in proportion to the number of stockholders. That is, a corporation such as General Motors, which has about 750,000 common stockholders, would incur a cost about nine times the cost to Dow.

**3. Certificate Cost.** A stock dividend uses up stock certificates and requires that names, dates, and signatures be added. Dow puts the cost at \$35,000 for the two percent increase in shares and at \$100,000 for the 200 percent increase, figures which can be reconciled by supposing that only about a third of the stockholders ended up with additional shares after the small dividend. Anonymous lists the cost of 30,000 certificates and of dating at \$4,927, or at \$5,255 including the fee of The Signature Company. In addition, part of the \$8,432 spent for temporary employees represents a cost of preparing the certificates; this part would be \$3,500 if the aggregate certificate cost were proportional to Dow's. On this basis, we may put the cost per stockholder at \$0.44 for a small dividend, and at \$1.25 for a large dividend.

**4. Ledger Revision.** A stock dividend necessitates revision of the stockholders ledger and preparation of a distribution list. Dow figures the cost at \$86,000 for the two percent increase in shares and at \$250,000 for the 200 percent increase. The cost to Anonymous is included in the \$8,432 spent for temporary employees, of which \$4,932 remains. For a conservative estimate, let us use this lowest figure. Then the cost per stockholder comes—again with exaggerated accuracy—to \$0.24 for a small dividend, and to \$0.70 for a large dividend.

**5. Mailing Costs.** A stock dividend entails mailing costs. Dow lists \$8,000 for the two percent increase and \$10,000 for the 200 percent increase, the difference being attributed to the larger number of certificates and greater insured value in the case of the larger increase. Anonymous lists merely \$900 for first class postage. Using the Anonymous figure, the cost per stockholder comes to \$0.04.

**6. Miscellaneous Supplies.** This category includes "fractional order cards, billing statements, checks for use when fractional orders are sold, extra lists for registrar, phone calls and numerous other small items." Dow lists the cost of miscellaneous supplies as \$6,000 for the two percent increase and as \$25,000 for the 200 percent increase. Anonymous lists \$3,000. Using the implicitly lower Dow figures, the cost per stockholder is \$0.08 for a small dividend and \$0.31 for a large dividend.

**7. Franchise Taxes.** A stock dividend will sometimes produce an increase in the franchise tax levied by the state of incorporation and in corresponding taxes imposed by states in which the corporation transacts business as a qualifying foreign corporation. "In a few states, such as Arizona, Nevada, Indiana, North Dakota, and South Dakota, there is no annual franchise tax;" in "several states, such as California, Connecticut, Iowa, Massachusetts, Minnesota, New York, Utah, and Wisconsin, the state income tax has replaced the franchise tax." In "other states the amount is calculated on a variety of bases, such as authorized capital stock (Oregon), outstanding stock (Florida), capital stock and paid-in surplus (Illinois) . . .<sup>34</sup> Capital stock is usually valued at par or, in the case of no-par shares, at an arbitrary amount per share ranging from ten to 100 dollars. Tax bases such as these would tend to be increased by a stock dividend. Marginal tax rates vary widely, ranging from a probable low of 0.275 cent per year per additional share authorized (Delaware) to a high of 50 cents per year per additional \$100 of capitalization (Pennsylvania).<sup>35</sup>

Both Dow and Anonymous are in fact incorporated in Delaware. At the Delaware rate, a two percent increase in the number of shares authorized would correspond to a tax increase of 0.0055 cent per old share; a five percent increase would correspond to 0.014 cent per old share; a 200 percent increase would correspond to 0.55 cent per old share. These amounts, however, represent only one year's increase in taxes, whereas the increase is in effect a perpetuity.

For Dow, however, there was no extra franchise tax. Delaware has a maximum tax of \$50,000 per year;<sup>30</sup> with 26.6 million common shares already outstanding (and 50 million authorized), Dow was already paying the maximum. Anonymous too lists zero as the franchise tax cost. Here the reason was the availability of unissued shares.

It is unacceptable, however, to make a deduction for utilization of shares already authorized but presently not outstanding. The reason is not that a future increase in the number authorized may then have to occur sooner. More fundamentally, the reason is that a corporation with unissued (or treasury) stock has an alternative that would cause it to save the indicated deduction, yet end up with the same number of unissued shares as it has after the stock dividend. This alternative is to reduce the number of shares authorized by the same amount that the dividend would utilize unissued shares. In view of this alternative, the tax cost of the dividend is, at minimum, the perpetuity above minus the cost of charter amendment. I say "at minimum" because the corporation may originally have obtained authorization for the unissued shares partly in order later to issue them as a dividend. Then it has been paying extra franchise taxes from the time the shares were authorized; that is, we should not merely reject the indicated deduction; but actually increase the tax cost by the present value of the extra taxes already paid. For present purposes, however, let us accept zero as the franchise tax cost.

**8. Charter Amendment.** A stock dividend may require amendment of the corporation's charter—immediately if the number of authorized but unissued shares is insufficient for the dividend, at some future date if the dividend consumes unissued shares that would later have covered the sale of additional stock. Neither Dow or Anonymous needed to amend for their small dividends, since the number of shares already authorized substantially exceeded the number outstanding.

As to the cost, Dow estimates \$3,000, which amounts to \$0.04 per stockholder. This figure seems low. Charter amendment involves preparing, printing, and posting the proposal for approval by the voting stockholders, filing with the appropriate official in at least one state, and paying small filing fees. A less conservative figure might be \$20,000.

**9. Stock Issue Tax.** The federal stock issue tax is ten cents for each \$100 (or major fraction thereof) of actual value, regardless of par value. "Actual value is a question of fact which may be determined by reference to quoted values in the market, book values or any other information which has a bearing on the question."<sup>31</sup> Declaration of the value is the responsibility of the issuing corporation.

The amount of the original issue tax paid by Anonymous implies a declared value per share equal to an average of the market prices of Anonymous common on the day of payment. Dow paid \$46,400 on its 531,092 dividend shares. This implies a declared value per share of 87%, which also falls within the trading range of the day of payment. The figures in Table I assume an "actual value" of merely \$26.75 per share before the dividend.

**10. Listing Fees.** A stock dividend may increase the charges for listing the issue on securities exchanges. Anonymous common stock is listed on the New York and Pacific Coast stock exchanges, and the dividend shares, plus another 30,000 reserve shares to prevent dilution of stock options, were listed there too.<sup>32</sup> Dow common stock is listed on the New York, Boston, Cincinnati, Detroit, Midwest, Pacific Coast, and Philadelphia-Baltimore exchanges. The two percent dividend resulted in the listing of 531,092 additional shares, plus 120,000 shares for the employees stock purchase plan. Let us calculate the listing fees of merely the two exchanges on which Anonymous is listed.



The New York Stock Exchange charges an initial listing fee and an annual fee payable for fifteen years.<sup>39</sup> The initial fee is graduated according to the number of shares originally listed; the annual fee is graduated according to the number outstanding and listed at each anniversary. Both fees apply to listing dividend shares of previously listed stock, the charges being at the marginal rate or rates applicable to the entire issue. The initial fee is \$100 per 10,000 shares or fraction thereof for the first 500,000 shares, \$50 per 10,000 shares for the next 1.5 million shares, and \$25 per 10,000 shares for shares in excess of two million, but not less than \$2,000 for a corporation having no other stock listed. The annual fee is \$100 per 100,000 shares or fraction thereof for the first two million shares and \$50 per 100,000 shares above two million, but not less than \$250 per stock issue or \$500 per company.

At the lowest of these rates, a two percent increase in shares would produce an initial fee of 0.005 cent per old share; it would also produce a fifteen year annual fee of 0.001 cent per old share. Discounting the fifteen year annuity at ten percent, the total cost would amount to 0.0126 cent per old share. A five percent dividend would correspond to 0.0315 cent per old share; a 200 percent dividend, to 1.26 cents.

The initial fee of the Pacific Coast Stock Exchange is \$500 for 500,000 shares or less, or \$1,000 for more than 500,000 shares; the annual fee is a flat \$100. However, the charge for listing dividend shares of a previously listed stock is ten dollars per 100,000 shares or fraction thereof, but not less than \$100.<sup>40</sup> The ten dollar rate corresponds to 0.0002 cent per old share for a two percent dividend, 0.005 cent for five percent, and 0.02 cent for 200 percent.

The total cost per old share, then, comes to 0.0128 cent for two percent, 0.0320 cent for five percent, and 1.28 cents for 200 percent. With 26.6 million old shares, these rates correspond to \$3,400, \$8,500, and \$340,000, respectively.

These are conservative figures. They include the charges of only two exchanges. They assume the lowest rates of the NYSE and neglect the minimum charges of both exchanges. They neglect that any fraction of 10,000 or 100,000 shares counts for a full unit. They disregard the listing of reserve shares, as occurred with both Anonymous and Dow.<sup>41</sup>

**Recipient Costs. 1. Nuisance Value.** The trouble imposed on shareholders is at minimum the effort of opening an envelope and filing a certificate. The trouble may include an entry in the record books and a trip to the safe deposit box. If warrants or order cards are given, the recipient has the trouble of converting to cash or shares—and the possibility of loss or lapse of the warrants. He may also need to read the entirety of a two-page closely printed cover letter. Twenty cents per stockholder would seem to be a conservative price tag for a small increase in shares; ten cents for a large one. With 80,000 stockholders these rates correspond to \$16,000 and \$8,000, respectively.

**2. Transfer Taxes.** There are stock transfer taxes in a number of states—most notably in New York. The New York tax rate on shares selling at \$20 or more is a flat four cents per share, to be paid by the seller.<sup>42</sup> Consider the effect that a stock dividend would have on stockholders who later sell their given proportionate interests in New York. Assuming that the price remains above \$20, a two percent dividend would increase their transfer taxes by 0.08 cent per old share. Using what seems to be the most reasonable way of obtaining a total (and the way that would be comparable with estimates of the supposed gain in value), this amounts to \$21,300 on 26.6 million old shares sold once. A five percent dividend would reduce net proceeds by 0.2 cent per old share, or \$53,200; a 200 percent dividend would cost eight cents per old share, or \$2,128,000. For our cost estimate, let us conservatively reduce



these figures by ten percent, since New York's two major exchanges account for somewhat less than 95 percent of the dollar value of all stock sold on the country's exchanges.<sup>43</sup> The loss should vary among large corporations about in proportion to the number of additional shares.<sup>44</sup>

**3. Commissions.** A stock dividend tends to increase brokers' commissions. This tendency results from the interaction of three practices. First, commission charges on multiples of 100 shares are computed by multiplying the charge for 100 shares times the number of 100-share lots involved. Second, the charge for 100 shares represents a larger proportion of the gross value of 100 shares if the price per share is lower. Third, the commission on any odd lots involved is computed separately.<sup>45</sup> Put together, these practices imply that when a stock holding of some given gross value is sold, the commission will be greater if a larger number of 100-share units, or the same number but also an odd lot, is involved.

Suppose, for example, that a two percent dividend occurs which, because price per share falls from 51 to 50 dollars, leaves the gross value of each stockholder's interest unchanged. Consider a stockholder who previously held 100 shares and now has 102. The commission for selling his complete holding would increase from \$44.10 to \$50.00. This is an increase of 5.9 cents per old share; in other words, a reduction of 0.12 percent in net sales proceeds.

It is difficult to generalize about the increase in commissions. The increase will vary with the original price, the size of the transaction, the impact of the six dollar minimum and the \$1.50 and 75 dollar maxima, and the percentage increase in shares. Table 2 indicates the effect of four percentage increases under varying circumstances. (Additional commissions for new stockholders would tend to be twice as much, since they would also buy at a higher cost.)

For the proportion of stockholders that would be affected, we may refer to information from Anonymous that approximately 95 percent of its stockholders own less than 100 shares, and less than one percent own more than 225 shares—even though Anonymous common is not a high priced stock. Of the five percent of shareholders with 100 or more old shares, perhaps two-fifths would have holdings without small odd lots and therefore incur substantially larger commissions as a result of a two or five percent dividend. Judging by Table 2, it seems conservative to say that these shareholders would lose an average of three dollars from a two percent dividend, or five dollars from a five percent dividend.

With 200 percent, these five percent might average, say, \$20, and one-fifth of the others, say, \$5. With 500 percent, the former might average \$40 and one-third of the others lose \$8.46.

**4. Odd Lot Differentials.** Stock dividends not in multiples of 100 percent will create odd lots in existing round lot holdings and additional shares in what remain odd lot holdings. Consider the effect of a two percent dividend when, as is usual, the unit of trading is 100 shares and the odd lot differential is 25 cents per share, or 12.5 cents for shares selling below \$40. Holders of even multiples of 5,000 old shares will receive round lots. Other shareholders will receive rights to odd lots, amounting to two percent of the number of old shares for holders of less than 5,000 old shares, amounting to between zero and one percent for holders of 5,001–9,999 old shares, etc. In the net, this may increase odd lots by one share per holding—or by three shares with a five percent dividend—costing to sell an average of \$0.1875 each.

In contrast, no multiple tends to increase the number of odd shares and certain ratios will unidirectionally convert odd lots into round ones.

TABLE 2  
EFFECT OF STOCK DIVIDENDS ON COMMISSIONS

Increase in Number of Shares	Original Price per Share	Smallest Transaction Affected (old shares)	Increase in Commission on:			
			Smallest Affected Transaction	100 Old Shares	150 Old Shares except 140 for 5%	500 Old Shares
2%	\$408	99	\$6.00	\$6.00	\$0.80	\$ 15.00
	306		7.71	5.40	0	12.00
	204		7.80	5.60	0	13.00
	102		7.90	5.80	0	14.00
	51		4.95	5.90	0.40	9.50
	25.50		3.38	2.75	0.25	4.75
	12.75		2.63	1.75	0	4.75
5%	420	96	6.00	7.50	2.00	37.50
	315		7.76	6.00	0	30.00
	210		8.84	6.50	0	32.50
	105		7.20	7.00	2.00	27.00
	52.50		5.52	5.75	2.25	16.25
	26.25		3.40	5.37	0.62	8.10
	13.125		2.65	3.12	0	4.10
200%	420	34	7.72	84.00	123.00	420.00
	360		7.76	78.00	117.00	390.00
	240		7.84	78.00	113.00	390.00
	180		7.88	78.00	109.00	390.00
	90		5.30	54.00	68.50	270.00
	60		4.00	36.00	46.00	180.00
	30		3.00	17.00	24.00	85.00
500%	420	17	7.86	201.00	281.00	1005.00
	360		7.88	195.00	275.00	975.00
	240		6.40	171.00	239.00	855.00
	180		5.30	147.00	203.00	735.00
	90		3.50	84.00	110.50	420.00
	60		3.00	57.00	76.00	285.00
	30		2.50	38.00	54.00	190.00

Certain multiples, or split ratios, can simultaneously convert existing odd lots into round lots. These are the ratios that divide evenly into the number of shares that constitutes a unit of trading, and also multiples of these ratios. Given the usual 100-share unit of trading, the basic ratios are 2-for-1, 4-for-1, 5-for-1, 10-for-1, 20-for-1, 25-for-1, 50-for-1, and 100-for-1.

But there are also differences among these ratios. There are 99 possible odd lots when the unit of trading is 100 shares. As Table 3 indicates, a 100-for-1 ratio, or multiple thereof, would round out all 99; 50-for-1, or multiple thereof, would round out the 49 even numbers; 25-for-1 would round out the 24 multiples of four; 20-for-1 would round out the nineteen multiples of five; 10-for-1 would round out the nine multiples of ten; 5-for-1 would round out the four multiples of 20; 4-for-1 would round out 25, 50, and 75; 2-for-1 would round out only 50. Clearly the proportion of odd lot holdings that are rounded out tends to be greater the larger is the split ratio, if it is chosen wisely. If odd lots are to be minimized, therefore, the larger the ratio among those mentioned, the better.

TABLE 3  
POWER OF DIFFERENT SPLIT RATIOS TO ROUND OUT ODD LOTS

Split Ratio	Odd Lots Converted	
	Number Out of 99	Holdings Rounded Out
1, 3, 7, 9, 11, 13, 17, 19, 21, 23, 27, 29, etc.....	0	
2, 6, 14, 18, 22, 26, 34, 38, 42, 46, 54, etc.....	1	50 old shares
4, 8, 12, 16, 24, 28, 32, 36, 44, 48, 52, etc.....	3	25, 50, 75
5, 15, 35, 45, 55, 65, 75, 85, 95, 105, etc.....	4	20, 40, 60, 80
10, 30, 60, 70, 90, 110, etc.....	9	10, 20, 30, 40, 50, 60, etc.
20, 40, 60, 80, 120, 140, etc.....	19	5, 10, 15, 20, 25, 30, etc.
25, 75, 125, 175, etc.....	24	4, 8, 12, 16, 20, 24, etc.
50, 150, 250, etc.....	49	2, 4, 6, 8, 10, 12, etc.
100, 200, 300, etc.....	99	1, 2, 3, 4, 5, 6, etc.

Our 200 percent increase, of course, receives absolutely no credit here. Other ratios would receive a credit varying with the ratio involved, the proportion of holdings that were rounded out, the average number of shares in such holdings, and the odd lot differential. In the case of a 500 percent increase in shares, holdings containing a 50-share odd lot would be rounded out. Suppose that these constitute five percent of all holdings. Then the savings, at 12.5 cents per share, come to \$0.31 per stockholder. In addition, let us suppose that a credit of \$5.94 per stockholder is due for reducing the odd lot differential. This corresponds to 95 percent of stockholders holding 50-share odd lots.



## REFERENCES

1. One can illustrate from works of the highest quality. For example: "The stock dividend has no real effect on the stockholders." M. Moonitz and C. C. Staehling, *Accounting—An Analysis of Its Problems* (Brooklyn, 1952), vol. 2, p. 140. "From the stockholder standpoint the stock 'dividend' transaction is nothing more nor less than a straight split-up." W. A. Paton, Jr., *Corporation Accounts and Statements* (N.Y., 1955) p. 128.
2. A. C. Whitaker, "The Stock Dividend Question," *American Economic Review*, Mar. 1929, vol. 19, no. 1, p. 39.
3. See note 2, p. 28-29, 32-33.
4. "Stock Dividends, Investment Trusts, and the Exchange," *American Economic Review*, June 1931, vol. 21, no. 2, p. 279.
5. E. B. Wilcox, dissenting to American Institute of Accountants, *Accounting Research Bulletin No. 11 (Revised)*, "Accounting for Stock Dividends and Stock Split-Ups." (N.Y., 1952), p. 104-A.
6. Whitaker, "The Stock Dividend Question," *loc. cit.*, p. 34.
7. "The surplus is frozen by the stock dividend so that it cannot later be distributed as a cash or property dividend." N. D. Lattin, *The Law of Corporations* (Brooklyn, 1959), p. 467. "A dividend is basically a distribution of corporate assets, and it is nothing short of ridiculous . . . to label a procedure which ensures the permanent retention . . . of a specified amount of income funds as a 'distribution.'" Paton and Paton, note 1, p. 95; see also p. 127. Paton and Paton place quotation marks around "dividends" of stock. *Accounting Research Bulletin No. 11 (Revised)* suggests that large or repeated issuance of new shares be called a "split-up" or, less desirably, "a split-up effected in the form of a dividend." *Op. cit.*, p. 102-A.
8. See A. S. Dewing, *Financial Policy of Corporations*, 5th ed. (N.Y., 1953), vol. I, ch. 22.
9. See note 8, p. 122. This is also called "a strong argument" in R. Wixon, ed., *Accountants' Handbook*, 4th ed. (N.Y., 1956), p. 21-43.
10. This is pointed out by Moonitz and Staehling, note 1, vol. 2, p. 141.
11. Moonitz and Staehling, note 1, vol. 2, p. 142. Nevertheless, it must be conceded that precisely because of its misleading implications, "The stock dividend may be very helpful in securing the stockholders' acquiescence in this policy of reinvestment of earnings." Whitaker, "Stock Dividends," *loc. cit.*, p. 279.
12. *Op. cit.*, p. 132.
13. Dewing remarks, "In making this transfer from surplus to capital stock the directors should realize that the average stockholder values his ownership in the corporation only as a source of cash dividends." *Op. cit.*, vol. 1, p. 782, fn. ggg.
14. Letter of 11 February 1960 from Frank E. Glenney, Investment Administrator, Moody's Investors Service.
15. Historically, a fifth burden was sometimes relevant. Until "the middle [nineteen] thirties, stockholders in our national banks were liable for the bank debts up to the par value of their shares." Dewing, *op. cit.*, vol. 1, p. 15.

16. "There is evidence that many financial managements, sensitive to critical attitudes of employees and others with respect to higher dividends, prefer increasing the number of shares . . . to increasing the amount of cash per share. This is rather silly, as . . . there should be no necessity either for apologizing for or disguising such an increase." Paton and Paton, *op. cit.*, p. 128.

17. Studies have yielded positive correlations between payout ratios and share prices per dollar of current earnings. F. Modigliani and M. H. Miller point out that these correlations may reflect, not investors' desire for income or lack of understanding, but merely the fact that dividends are regarded as indications of other things, most notably insiders' views as to the firm's long-run earning power. "The Cost of Capital, Corporation Finance, and the Theory of Investment: Reply," *American Economic Review*, Sept. 1959, vol. 49, p. 668. In either event, it pays to have an increase in dividends visible.

18. Paton and Paton, *op. cit.*, p. 115, remark, "About the only excuse one can think of for converting retained earnings into bonds is to develop an interest charge for the sake of increasing tax deductions. . . . Even this point has its offset in the fact . . . that the bonds issued are legally income to the recipients, in the amount of their fair market value."

19. The popular view is that a stock dividend is roughly equivalent to a cash dividend because the recipients could realize cash by selling the additional shares. The obvious answer is that a stockholder could sell part of his proportionate interest in the company whether or not there is an increase in the number of shares into which his interest is divided. Hence, if any benefit is obtained, it must be of the sorts mentioned in the text; that is, either it must become more convenient for stockholders to sell part of their holdings, or their holdings must be increased in value because price per share decreases a smaller proportion than the number of shares increases. It is also without merit to argue that a stock dividend conserves cash, avoids underwriting fees, provides cheap capital, or saves on income taxes; there is no reason why a cash dividend of equal bookkeeping amount would otherwise have to be declared. It is misleading to state that "The alternative to the stock dividend . . . is the disbursement of a cash dividend followed by issue of privileged subscription rights. . . . Such procedure would have been very costly . . . because [of] personal income taxes on dividends and because of the underpricing and underwriters' fees necessary. . . ." *Accountants' Handbook*, *op. cit.*, p. 21-43. See also Bothwell, cited in footnote 23.

20. See especially the study of Burrell, cited in footnote 23 below.

21. Cf. Dewing, *op. cit.*, vol. 2, p. 1188.

22. Both parts of this sentence are supported by the studies, cited in footnote 23, of Dolley and of Fogg. Wider distribution of ownership may also be a prerequisite of listing on an exchange. It has also been said that wider distribution of ownership will reduce the chance of capture of control by "pirates," will lessen price fluctuations "because there is less money invested in the average holding which can be shaken out if a market break occurs," and will facilitate raising capital because "the added contribution which is asked of each individual stockholder is smaller." (The quotations are from the article in *Barron's* cited in footnote 23.) Indeed, according to Dolley, wider ownership is, for management, the primary purpose of splits, despite the higher costs attendant on wider ownership.



23. The evidence, indeed, is contradictory. And even where the results are positive, as in the study of Myers and Bakey, there are some disconcerting notes. Thus the only attribute that Myers and Bakey found among their 70 stocks that was significantly associated with an increase in value was a low pre-split price (less than \$60). Similarly, the article in *Barron's* asserts that "There also appeared to be only a slight relation between the size of the split and the size of the increase in stockholders."

See: *Barron's Magazine*, Sept. 15, 1947, vol. 27, no. 37. J. C. Bothwell, Jr. "Periodic Stock Dividends," *Harvard Business Review*, Jan. 1950, vol. 28, pp. 89-100. O. K. Burrell, "Price Effects of Stock Dividends," *Commercial and Financial Chronicle*, Convention Number, Dec. 2, 1948, pp. 10, 68-70. J. C. Dolley, "Common Stock Split-Ups—Motives and Effects," *Harvard Business Review*, Oct. 1933, vol. 12, pp. 70-81. P. S. Fogg, *Stock Split-Ups* (Harvard Graduate School of Business Administration, 1929). S. Livermore, "The Value of Stock Dividends," *American Economic Review*, Dec. 1930, vol. 20, p. 687. J. H. Myers and A. J. Bakey, "The Influence of Stock Split-Ups on Market Price," *Harvard Business Review*, Mar. 1948, vol. 26, pp. 251-55. S. N. Siegel, "Stock Dividends," *Harvard Business Review*, Oct. 1932, vol. 11, pp. 76-87.

24. Lattin comments, "While the shareholder derives no greater property interest by the issue of another piece of paper, he does find it more convenient, in case he desires to sell, to have these share-dividend units to use instead of splitting his larger units. . . . The inconvenience does not add up to much." *Op. cit.*, p. 465.

25. J. T. S. Porterfield, "Dividends, Dilution, and Delusion," *Harvard Business Review*, Nov.-Dec. 1959, vol. 37, no. 6, p. 60.

26. *Op. cit.*, p. 665.

27. For exceptions to this and the next point, see footnote 29 below and the text sentence preceding it.

28. See footnote 42.

29. Another exception to the nonreduction of surplus applies to the splitting of par-value stock whose par value has reached the minimum (often one dollar, but sometimes less), if there is one, specified by the chartering state for shares with par value. Further split-ups would require either charges to a surplus account or a conversion to no-par stock (which is authorized in all states except Nebraska).

30. The requirement is unfortunate from an accounting viewpoint. "The preferable accounting procedure . . . [for a stock dividend is to use] the *capital* book value per share (either par or stated value or, more logically, average amount received per share from stockholders). . . ." Paton and Paton, *op. cit.*, p. 125. See also Moonitz and Staehling, *op. cit.* However, the requirement has the sanction of *Accounting Research Bulletin No. 11 (Revised)*, *op. cit.*, p. 101-A—with dissents.

31. Dilution of participated preferred stock, as well as dilution of convertible bonds and stocks, and stock warrants and options, should be recognized as an additional way in which a stock dividend may benefit the common stockholders. The benefit depends on the existence of these instruments, on the absence of enforceable protective provisions in their contracts, on the decision not to alter their rights proportionately, and on the preservation of the corporation's reputation. If these conditions are met, however, a stock split could also result in dilu-

tion (unless the contracts have a loophole only for stock dividends or the corporation is chartered in Nebraska, which (cf. E. F. Donaldson, *Corporate Finance*, (N.Y., 1957), p. 110, fn. 1) requires that all shares have the same par value). Indeed, as just indicated in the text, dilution by a split can be easier—provided the preferred would not veto the charter amendment, which is required except in the case of “true” no-par shares.

32. Cf. Donaldson, *op. cit.*, p. 110.

33. Cf. Donaldson, *op. cit.*, p. 630; J. I. Bogen, ed., *Financial Handbook*, 3d. ed. (N.Y., 1948), p. 792.

34. H. G. Guthmann and H. E. Dougall, *Corporate Financial Policy*, 3d. ed. (Englewood Cliffs, N.J., 1955), p. 47, 48.

35. Donaldson, *op. cit.*, p. 60.

36. *Delaware Code Annotated*, Title 8, sec. 503c.

37. Letter of 9 May 1960 from R. J. Bobb, Chief, Excise Tax Branch, Internal Revenue Service, Washington, D.C.

38. Letter of 20 April 1960 from R. L. Callanan, Department of Public Information, New York Stock Exchange.

39. New York Stock Exchange, Department of Stock List, *Schedule of Listing Fees* (1 March 1950).

40. Telephone conversation.

41. Thus, the NYSE initial fee for Dow was in fact \$1,775, not \$1,330 as in our calculations. The annual fee was in fact \$300 per year, not \$266.

42. The rate is one cent per share on shares sold at less than five dollars, two cents for \$5.00–\$9.99, and three cents for \$10.00–\$19.99. Rates in several other states are given in *The Fitch Stock Record*:

Per \$100 par value, or per share on no-par stock, regardless of selling price . . .	Florida	South Carolina	Texas
	\$0.10	\$0.4	\$0.033

43. Donaldson, *op. cit.*, p. 434.

44. As of 1 January 1959 the federal stock transfer tax became four cents for each \$100 (or major fraction thereof) of actual value of the total shares transferred, but in no case less than four cents on the entire transaction or more than eight cents on each share. The eight-cents maximum implies that stock dividends can also increase the federal tax. This would occur if the price per share of the larger number of shares remained above \$200. However, publicly held common stocks usually are kept below \$200 for “marketability.”

45. Since April 1959 the following commission rates have been in effect on the country’s major stock exchanges for a transaction of 100 shares or less, except that the commission is two dollars less in the case of an odd lot amounting to \$100 or more:

Money Value	Commission
Under \$100	6%
\$100 to \$399	2% plus \$3.00
\$400 to \$2,399	1% plus \$7.00
\$2,400 to \$4,999	½% plus \$19.00
\$5,000 and above	¼% plus \$39.00

Notwithstanding the above, when the money value is \$100 or more, the commission shall not exceed \$1.50 per share or \$75 per single transaction, but in any event shall not be less than six dollars per single transaction. In the case of a number of 100-share lots, or of one or more 100-share lots plus an odd lot, each part is regarded as an entirely separate transaction.

These rates imply the following relation between selling price and commission:

<i>Price per Share</i>	<i>Commission on 100 Shares</i>	<i>100-Share Commission Relative to Gross Value of 100 Shares</i>
\$400	\$75.00	0.19%
300	69.00	0.23
200	59.00	0.30
100	49.00	0.49
50	44.00	0.88
30	34.00	1.13
10	17.00	1.70
5	12.00	2.40
1	6.00	6.00

46. This and the next point do not apply to shares sold over the counter. There brokers' commissions are supposedly a uniform five percent, the bid-ask spread is apparently about proportional to the selling price, and there is no odd-lot differential.

# How Management Can Use the Improvement Phenomenon

JOHN G. CARLSON

*This powerful and popular mathematical business tool can often be built into existing cost accounting and control programs and serve management in many ways. However, it requires statistical analysis to achieve maximum effectiveness.*

The use and abuse of the improvement phenomenon has prompted further interest in research into its applicability. As with any tool of management there are impressive instances of appropriate and inappropriate uses of a fairly powerful method of analysis and prediction. There is much literature in the field but it appears to be quite restrictive to given environmental circumstances. We shall endeavor to look into the criteria for the application of "learning curves," "progress function," "time reduction," "cost-quantity relations" or a newer, yet synonymous phrase called "dynamic evaluation." The ability of these curves or models to predict events or costs within an acceptable tolerance is, of course, basic to their success.

Many producers, subcontractors and service organizations are discovering the need for more quantitative interpretation and justification for their methods of operation and price quotations. Those in defense-oriented industries have embraced the improvement phenomenon for a number of years. Many purchasers of defense items appear to have developed a particular sophistication in its use and extrapolation. The estimating, pricing, costing, and control functions in defense and non-defense industries are primarily subject to review and analysis through the use of the improvement phenomenon.

Fixed costs are those costs incurred and assigned by virtue of their independence to quantity produced. These are preparatory in nature such as the studying of blueprints

and initial familiarization with the task. If these fixed costs are plotted on a log diagram as in Figure 1, we can see their behavior as the quantity increases.

The direct costs, such as materials and labor, when they are a constant per unit, produce a plot also shown in Figure 1. In this case the per unit cost is a horizontal line and the total direct cost increases as the number of units increase. When experienced total direct costs accumulated under circumstances of the improvement phenomenon are divided by the quantity we have a cost picture appearing as in Figure 2.

## Plotting Cost Curves

Under the improvement phenomenon the per unit cost curves, having different slopes are not additive. However, the net result of combining some fixed costs, the fixed component of direct costs and the variable costs incurred often lead empirically to curves such as in Figure 2. These are the common curves we see used in facilitating the control and predictive functions in many companies.

There are several ways of describing the phenomenon illustrated by such a linear curve. The most common method is to describe the effect when quantities are doubled. Thus doubling the number of units would reduce the expected average or unit time or cost per unit by a fixed percentage such as 10% or 20% depending on the slope of the curve. The steeper the curve, the larger the

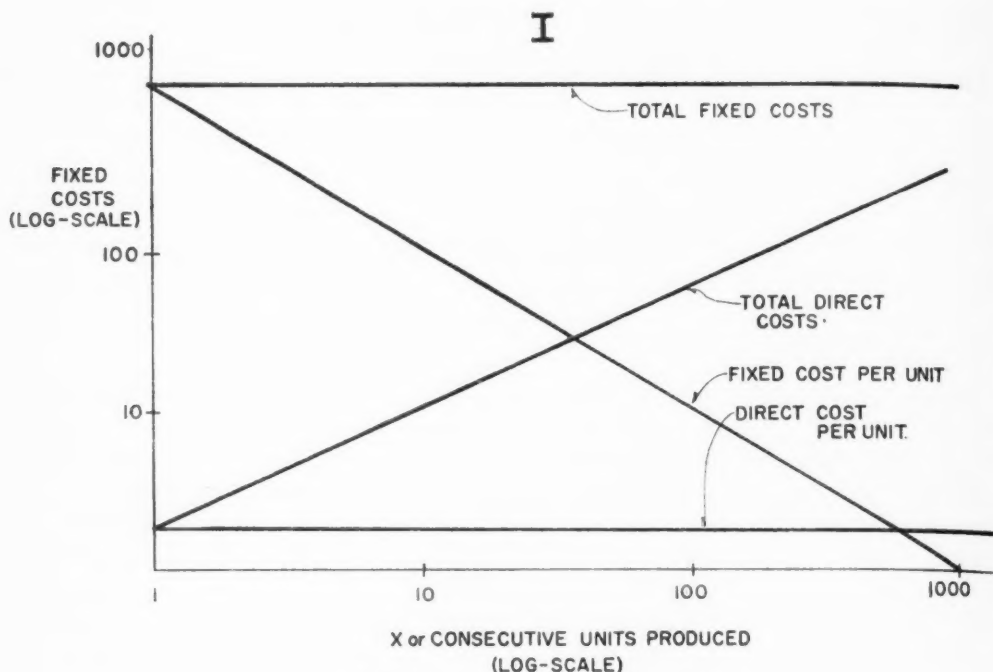


FIGURE I FIXED COSTS AND DIRECT  
COSTS vs QUANTITY PRODUCED

a) The prorated fixed cost per unit equals the fixed cost divided by the number of units or

$$c_{x_1} = \frac{C_f}{x}$$

where:  $C_f$  = total fixed cost

$c_{x_1}$  = prorated fixed cost per unit

$x$  = number of units

b) The direct cost per unit equals the total direct cost divided by the number of units or

$$\bar{c}_{x_1} = \frac{C_v}{x}$$

where  $C_v$  = total direct cost

$\bar{c}_{x_1}$  = direct cost per piece

c) The direct cost per piece equals the total direct cost divided by quantity or

$$\bar{c}_x = \frac{C_t}{x} \quad \text{or} \quad \bar{c}_x = \frac{c_1}{x^n}$$

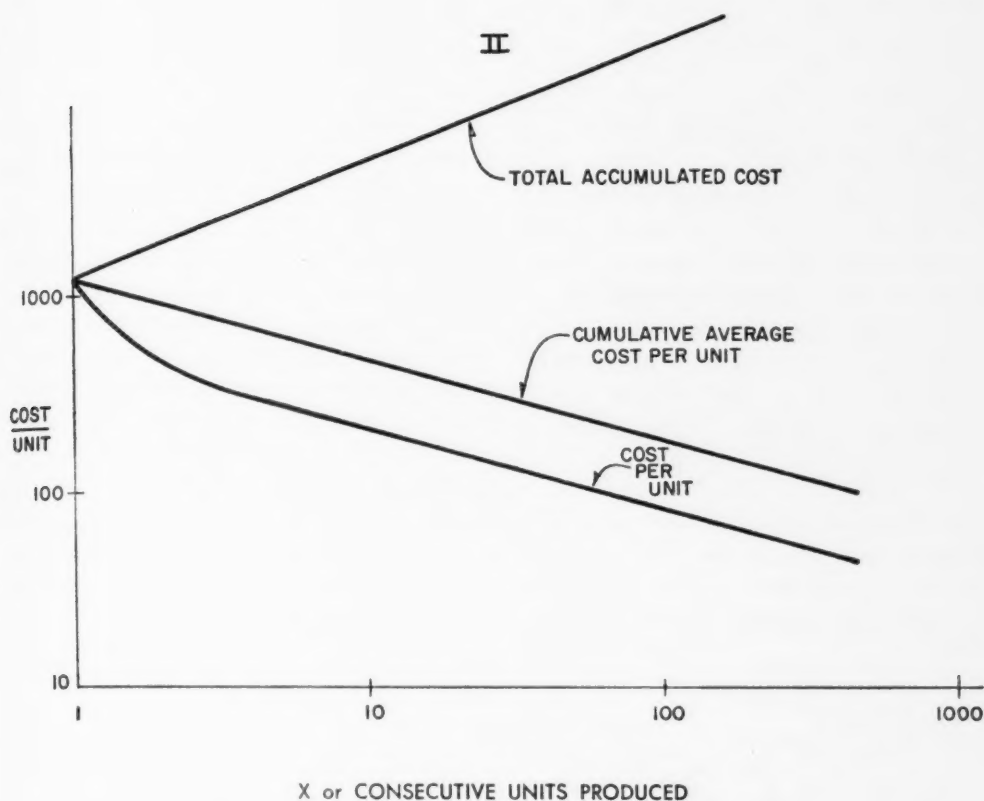
where:  $\bar{c}_x$  = cumulative average cost/unit

$c_1$  = cost for unit one

$n$  = geometric slope

$x$  = number of units



FIGURE 2—TOTAL COST " $C_t$ " vs QUANTITY PRODUCED

percent reduction for the doubled quantity. The formulation chosen regards the average accumulative cost per unit as linear. Other models will be discussed in subsequent pages of this article.

### Experience Curves

The concept of the improvement curve is quite easily understood but difficulties arise in application. Unfortunately there are innumerable situations where basic criteria are not easily satisfied. Additional or extraneous factors may be operative and the application of a simple model for extrapolation should be performed with caution.

The experience curves of the airframe,

shipbuilding and other selected industries are well known. In this environment, the whole company effort is directed toward a basic item. The organization assumes the role of a product-oriented enterprise and the man-hour or cost information is assigned to consecutive units or lots.

Generalizing perhaps to the extreme, we find most improvement curve usage applied to "serialized" types of production. Successive units such as airframes, textile machines, machine tools, computers, motors, etc., are identified and progress through the production stages by sequential serial numbers. Whole plants or departments develop a specialization toward a product or component.

### How Much Improvement?

With the efforts devoted to one or few products, it is quite apparent that:

a. operators, supervision and staff personnel become increasingly familiar with the required tasks.

b. the personnel become aware of possible improvements in method and procedure—improvements that can be retained and are applicable to succeeding lots.

c. planning, tooling, and coordination become more effective as experience is gained.

d. materials can be more economically purchased, handled, and processed.

A job shop must also improve in these categories as time goes on. However, the effect may not be demonstrated as significantly from lot-to-lot or product-to-product.

Sound initial planning, proper operator training, capable operator performance, and standardization of production methods and processes should combine to indicate that little improvement is to be expected. Processing involving a high proportion of machine control should further restrict the amount of improvement to be expected.

What then should we expect within our present environment in the way of improvement on individual or successive lot performance? Is a large improvement factor good? Does a large improvement factor on successive items or lots demonstrate that the initial and basic managerial and operational functions are not being effectively performed? Is the trade-off between high planning costs with low improvement factors versus lower planning costs with large improvement factors justifiable in a dynamic and changing environment?

### III

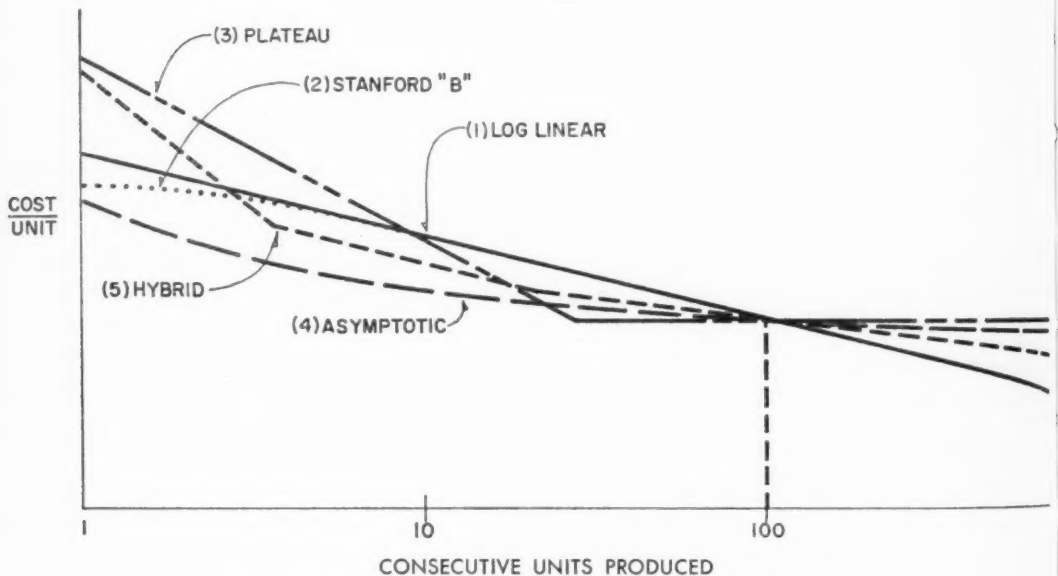


FIGURE 3 COMPARISON OF IMPROVEMENT MODELS

$$c_{x_n} = \frac{\sum c_v}{x}$$

where:  $c_v$  = variable cost for each unit

$c_{x_n}$  = average variable cost for  $x$  units

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### Straight Lines vs. Curves

A straight line is of considerable convenience both mathematically and graphically. This portrayal may satisfactorily serve us by permitting interpolation and extrapolation plus providing us with convenient grammatical interpretation. We are disturbed, however, when our plotted data show significant variance with a prescribed linear pattern. What are companies using to overcome these discrepancies? They may (a) accept the linear hypothesis and use the straight line as a control device, charting the points and seeking answers for the devia-

tions or (b) adopt another model. A comparison between some of the better known models is shown in Figure 3. We assume that the cost of a standard reference quantity, say the 100th unit, is carefully estimated independent of the model to be used. There are, of course, an infinite number of straight and curved lines which can be drawn through this point.

In so far as all the models predict the cost for the 100th unit when we have a request for 100 units, nothing is gained or lost. For quantities under 100, we may find that the control limits for these curves are somewhat mutually inclusive. Extrapolation beyond

#### IV

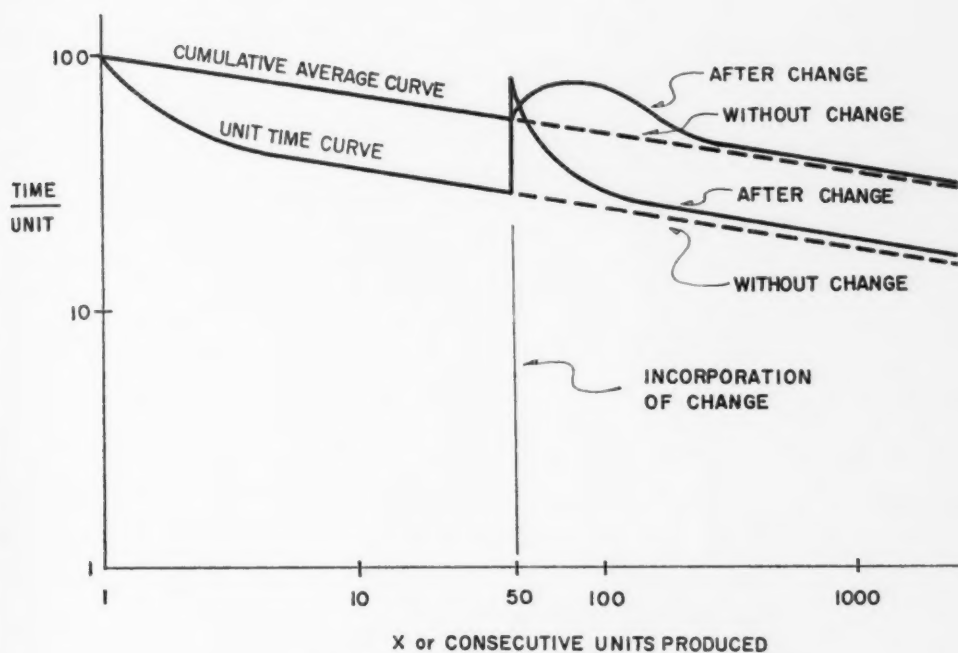


FIGURE 4 THE EFFECT OF AN ADDITIVE CHANGE

$$\bar{c}_x = \frac{c_1}{x^n}$$

where:  $\bar{c}_x$  = average accumulative total cost/unit  
 $c_1$  = cost for the first unit  
 $n$  = geometric slope  
 $x$  = cumulative number of units

## V

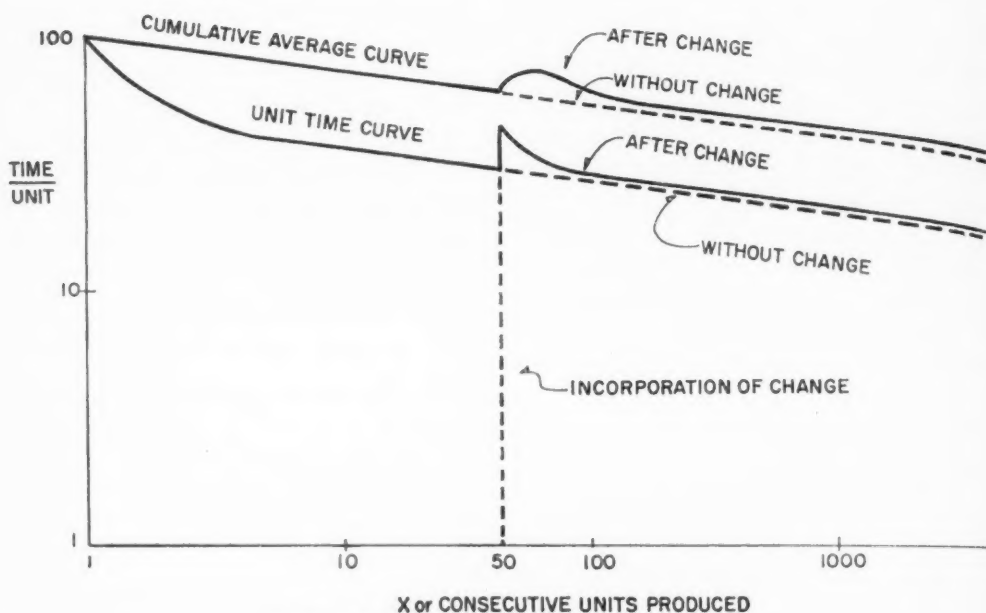


FIGURE 5 THE EFFECT OF A SUBSTITUTE CHANGE

100 units, however, is quite a different matter. In estimating and pricing we could lose our shirts as well as lose our confidence in this device depending on the appropriateness of the model to reflect actual experience.

These curves represent various approaches to the use of a model for predictive and control purposes. They can be described as:

1. The straight line or linear representation is most commonly used. Its correlation with data can be statistically determined. It indicates that a consistent reduction occurs no matter what the final quantity.

2. The Stanford B, Boeing "hump" and similar curves assume experience can be carried over from one lot to the next. After an initial quantity they revert to a linear or plateau type model.

3. The plateau models infer that a level is reached after a specified quantity. Ma-

jor processing changes are required to change this curve.

4. The asymptotic models suggest that a compromise exists between linear and plateau models. It suggests that improvement is continuous but at a decreasing rate and approaches some limit asymptotically.

5. There are many hybrid schemes in use which companies have adopted as they study and record their experience. These curves can be likened to linear approximations of the asymptotic models and provide convenience in plotting.

### Complicating Factors

There are complicating factors associated with even the ideal conditions for improvement factor application. Serialized manufacture has sporadic changes affecting the data; besides, there are difficulties in data accumu-

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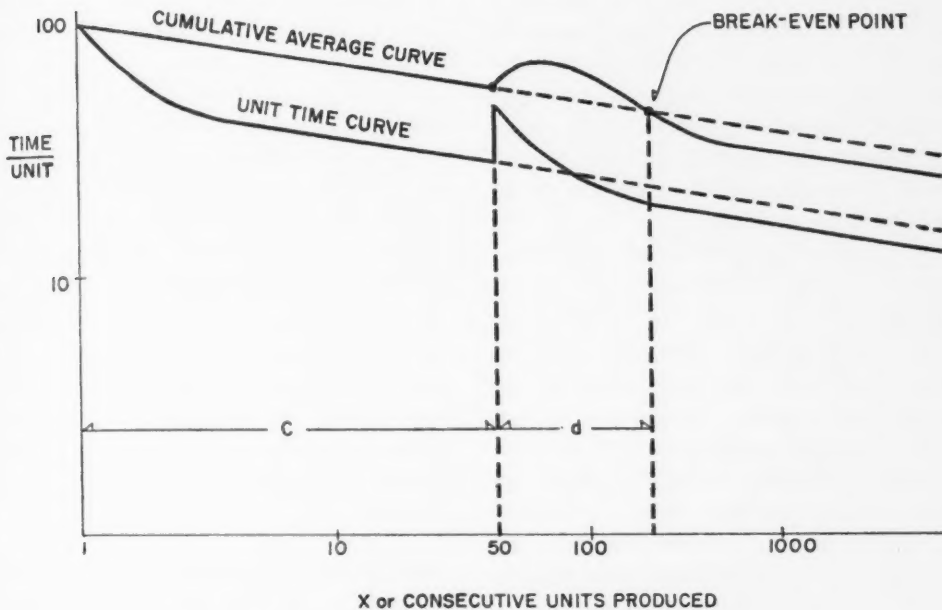


FIGURE 6 THE EFFECT OF A SIMPLIFYING CHANGE AND THE BREAK-EVEN POINT

lation and identification. Engineering and processing changes have a marked effect on the unit costs. This may be illustrated in the following way.

A method or product change may be effected which would change the processing time. The change may be (a) an addition to present processing, (b) a substitution for a segment of present processing or (c) a net reduction in the processing time. Nevertheless the change activities themselves are subject to improvement. In the case of the additive change, Figure 4 may be illustrative of the effect on unit and accumulative time per unit.

The effect of a substitutive change may be illustrated in Figure 5.

Finally, the effect of a simplifying change may appear as in Figure 6.

This latter case is illustrative of the idea of dynamic methods: change analysis or dynamic break-even point analysis. If the ad-

ditional units remaining to be produced do not exceed a specified quantity (d) it behooves management to observe whether other factors warrant the need for the change to be incorporated.

Given the quantity already completed, the expected times for a standard reference quantity with and without the change, and the appropriate improvement factor, it is possible to calculate the number of additional units which are required in order to break even. This break-even point is more realistic in that it considers the disruptions and the reorientation required to pursue the improved method.

### The Job Shop

Job lot activities with varied components, customers and processing have to rely on more detailed application of the improvement phenomenon and perhaps with different emphasis. To generalize the job shop



situation we may say that the processing stations themselves are the control factor. The emphasis is on process control versus control of the product. Typically in this situation we have skilled personnel performing an activity such as set-up, operating a machine, assembling, inspecting, or similar tasks requiring a basic knowledge of the task requirements but applying these skills to varied components or products.

The author has accumulated data from several job shops which revealed that there was improvement within lots but little or no improvement between successive lots. If an order for 50 items was processed there was a significant improvement between the first and 50th unit. However, if another order for additional units was started through the operations some time later, there was little or no carry over from the previous order. No improvement was evidenced from the job data on succeeding lots even when identical operators were involved. By the very nature of the job shop, where interim activities and job specialization exist, lots become relatively independent of one another.

TABLE I EXAMPLE LOT BY LOT DATA  
FOR A SUB ASSEMBLY

Lot. No.	Quantity	Average Time Per Unit
1	30	15.1 hours
2	30	19.2 "
3	6	23.4 "
3'	30*	15.4 "
4	30	16.1 "

\* The lot size of 6 was adjusted to a comparable lot size of 30 using a 90% improvement curve from past experience.

Job shop paperwork, materials, components and products proceed through the normal and established shop system. Time lapses between repeat orders and revision of the planning or production engineering on successive orders invite the return to initial conditions. A whole host of activities may be affected by a repeat order which would serve to revert the order into normal and in-

dependent job shop status, regardless of its repeat classification. This is especially true if the manual proportion, such as in fabrication, is minor compared to the setup and machine processing time.

The shop personnel are experienced personnel who perform similar activities day in and day out and are not given to drastic improvement on any particular operation or part. They may, however, acquaint themselves with short-cuts in a short run activity which the planning function has overlooked. A well managed job shop with detailed planning, instructions, route sheets, etc., should not expect to have a high factor of improvement within lots, and by its flexibility, versatility and product mixes, it should not experience high improvement factors on a lot to lot basis.

### Improvement Retention

The net effect in a job shop of producing 80 units in groups of 10 versus one lot for 80 units can be theorized momentarily. With no improvement retention between lots the net effect for the 80 lots, each with a 10% improvement percentage index, is in reality the equivalent of approximately a 5% improvement percentage over the total run of 80. If we are fortunate to obtain the same operators and other conditions, thereby permitting some lot to lot retention, the curves may appear as in Figure 7.

The equivalence here is a net 8% improvement percentage versus the 10% which we may find for a continuous lot. Though Figure 7 is an arithmetic plot of this concept, data substituted in the log linear relationships can verify these improvement percentages. The net effect is that a succession of smaller lots, with its multiple setups, reorientation and interim activities, restricts the improvement expected as compared with the larger lot.

Besides the problem of lot splitting we have that of rejection rates. In practice we find that smaller quantities often have higher rates of rejection and rework. The rejection

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## VII

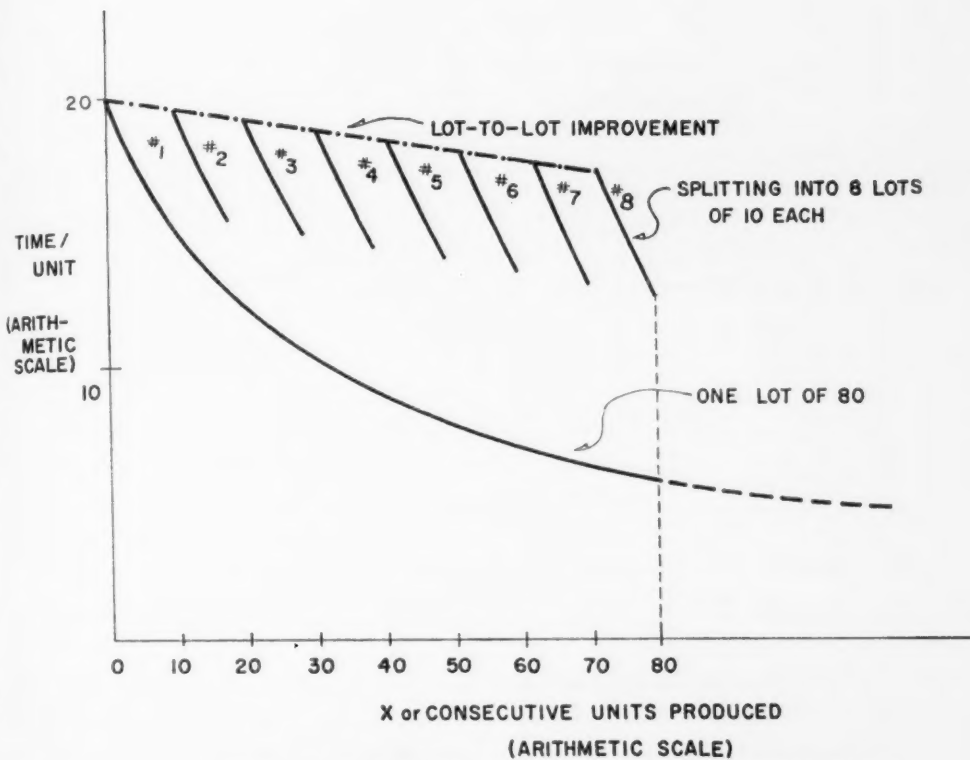


FIGURE 7 IMPROVEMENT FOR LOT SPLITTING WITH RETENTION

factor can be included in a formulation for the average expected time for  $Q$  completed good units. However, it may be preferred to apply this allowance as a separate modifying factor. This factor to be a function of lot quantity, product complexity or other recommended parameters.

To include rejects allowance would amount to determining the expected time for  $Q$  good units and multiplying this by a factor indicating the expected number of units which would be started in processing. This would confuse the quantity base used for the analysis and control aspects of the improvement curves. Therefore it is suggested that the graphing of historical rejects data, properly and separately categorized, would be a more logical approach in view of all the other factors the improvement curves already try to embody.

### Standard Reference Quantity

In all models it is extremely desirable to perform the estimating and costing in terms of a Standard Reference Quantity. This quantity is often selected, based on typical ordering lot sizes, by category. However, one SRQ is desirable, especially when predetermined data is used. A specification of SRQ should be made as indicative of the applicability for any predetermined data system. Therefore, if historical data, elemental, or motion-time-data is used, it should be identified as being applicable to a specific quantity. Estimates for quantities greater or less than the SRQ can then be properly determined. Graphical synthesis can be developed as shown in Figure 8, given a specified improvement slope.

The expected average accumulative time for any quantity may be found by multiply-

## VIII

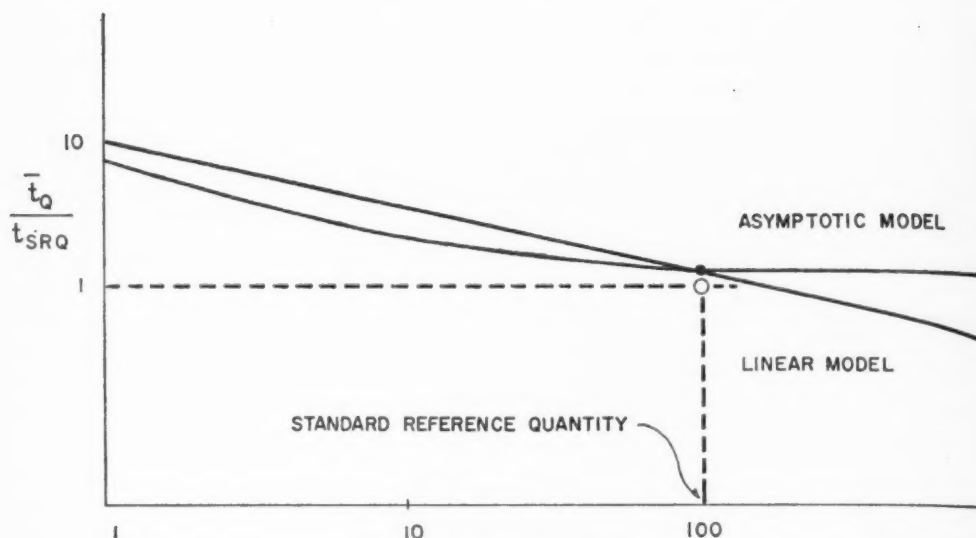


FIGURE 8 RATIO OF EXPECTED AVERAGE TIME PER UNIT TO THE TIME FOR A STANDARD REFERENCE QUANTITY.

ing the time estimated for the SRQ by the appropriate factor on the left. It is noted that the graph has already adjusted the time for the 100th unit to the average accumulative time for 100 units. This factor is all that is needed to compensate for the actual quantity and the improvement anticipated.

### Pricing Activity

The role of the improvement phenomenon in pricing can be one of complete dominance, especially for short run operations. Any improvement model demonstrates the potential for profit or loss as a function of volume. If the costing information is accurate, the position of the firm relative to profits on an order can be dramatically displayed.

If the firm wishes to make a profit on the first go-around, this can be portrayed. If the price is quoted in anticipation of future orders, this can be scrutinized. If price is to be renegotiated on successive lots, the company must build a history of experience on repeat orders so as to predict its outcome of profits or losses.

If the company is quoting under cost in anticipation of further business, it must evaluate risks involved especially if successive lots or orders do not continue where previous lots left off and possibly revert back to initial conditions.

Many improvement curves already have confounded the elements of fixed and variable costs in their application. Fixed components have either been directly prorated by their assignments and division by quantity or they have been assigned in an allocation procedure based on direct labor cost or hours or machine hour rates. Thus the cost quantity relations have built-in a composite costing procedure in the plotting.

If this composite estimating and costing procedure is followed, we have a convenient way of interpreting a pricing policy. Figure 9 shows a break-even analysis provided by the log-log plot of anticipated cost versus quantity. Any model suitable can be used and in most cases the break-even point can be mathematically computed.

On the other hand, the asymptotic model

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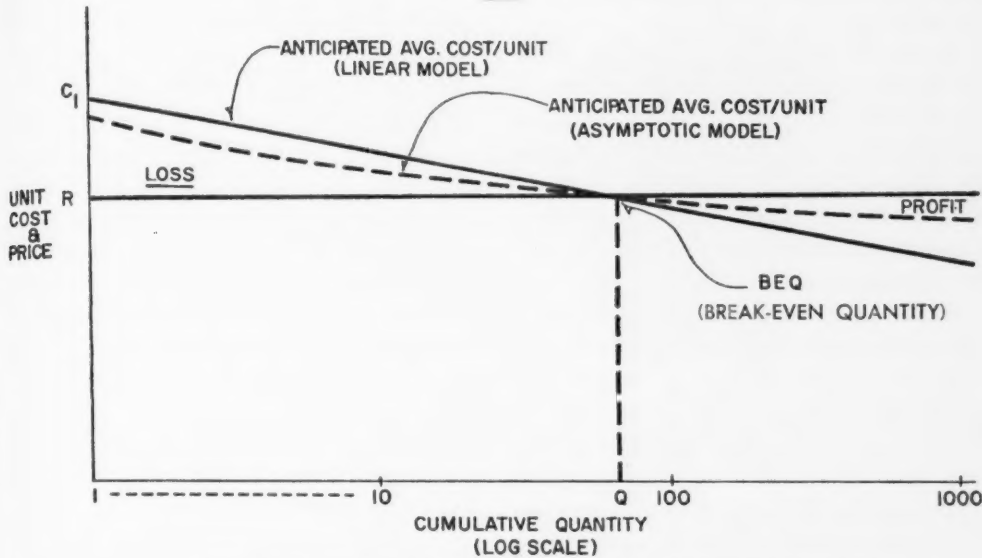


FIGURE 9 BREAK-EVEN ANALYSIS FOR IMPROVEMENT PHENOMENON

suggested by DeJong is also appropriate for break-even analysis. This model suggests parameters be assigned for the proportion of manual activity in a proposal. For activities dominated by manual operations, the time is compressible as successive units are completed. With a greater amount of machine time in the cycle of activities, the time is less compressible as the number of units increases.

Therefore an incompressibility factor  $M$  can be introduced into the log linear model which permits cognizance of the man-machine proportion and the approaching of some limit of unit time as the number of units increases. The model suggested is

$$t_x = t_1 \left( M + \frac{1-M}{X^n} \right);$$

where  $t_x$ , the time for the  $x$ th unit, is a function of time for unit one, a slope factor  $n$  and the factor for incompressibility. If  $M$  were zero, the model reverts to the log linear model.

Determination of the break-even quantity using the asymptotic model appears as a more formidable relationship when compared to a mathematical formulation based

on the linear model. However, graphs and tables can be easily computed and prepared for practical administration. The incompressibility factor  $M$  suggested by DeJong is often .25 for manually controlled activities and .50 for machine controlled activities. The value of  $n$  is often chosen as .322 and appears as a residual from the characteristic 80% time reduction curves.

### Basic Requirements for Use

Since improvement curves plot cost versus cumulative quantities, it is necessary to define these costs, develop a system for cost accumulation, define the method of cost allocation, and apply this information in a consistent and responsible manner. From this must evolve an adequate system for cost control to identify and justify deviations from the budget or plan represented by an improvement curve.

To complete the cycle, the essential function of feedback must be performed. The estimating and the standard cost data file must be constantly updated, verified and supplemented. Only then can the estimating and costing functions be sharpened to avoid

errors and improve and simplify these critical activities.

By far the most serious handicap in developing and using the improvement curves is the inability to identify and accumulate cost information. It is not necessary to pinpoint the costs associated with each sequential unit, but it is extremely vital that the man-hours or cost be accurately identified with a lot or group of homogeneous activities.

All this, of course, is sound cost accounting practice. The beautiful part of it all is that the improvement analysis program can be obtained as a by-product of an existing cost accounting and control program. With very little additional effort, plotting can be performed, graphs and practical formulae developed which would yield quicker and

more accurate estimating. A meaningful costs control device is available which ensures that each department, component and product is contributing its full share to profits.

The improvement phenomenon is a well worn, yet powerful tool of analysis. It bears a certain mathematical sophistication which may not be warranted. It can prove or disprove curves and formulations depending on the factors used in the analysis. It should be used to serve management in internal policy and control but, as with burden ratios and other operating factors, it must be extensively qualified if used as a bench mark for external comparisons with other companies and industries.

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# Management Ideology: Myth and Reality

THOMAS A. PETIT

*When there is strain on the management role, ideology serves as a "reduction gear" enabling executives to integrate into business life changes in social goals to which they become sensitive by participation in other spheres of life.*

A CONTROVERSIAL issue in contemporary managerial literature is whether management's prime responsibility is to maximize profits or to take a leading role in achieving broad social goals. This is a false issue because it perpetuates the unrealistic dichotomy between the economy and society established by the classical economists in the late eighteenth and nineteenth centuries.

Myths about management ideology will continue to be confused with reality until management is viewed within the framework of society, of which the economy is but a sub-system. It is the thesis of this article that although the need of executives for an ideology is imperative, in the nature of things there cannot be a unique and permanent management ideology.

## Classical Management Ideology

In classical economic theory the entrepreneur is motivated by the lure of profits to expand the output of the goods for which consumers clamor and to cut back the production of less desirable goods. His ideology is delightfully unambiguous: do everything possible to maximize profit short of failing to live up to contractual obligations and committing fraud. The only values to consider are those which can be expressed in money



terms and which affect in some way the profit position of the enterprise.

Because of the overlap between entrepreneurship and management, the classical entrepreneurial ideology has become associated with management. According to orthodox economic theory, management's first and only responsibility is to the owners of the enterprise. It is the executive's function to do everything in his power to maximize the firm's profits and to protect the interests of the shareholders.

The validity of the classical management ideology can be no greater than that of the model of pure competition of classical economics from which it is derived. Yet it was not till long after most economists frankly admitted the failings of the model of pure competition on theoretical and empirical grounds that it was recognized by some members of management that there might be more to their job than making money.

The classical economists committed what Alfred North Whitehead called the fallacy of misplaced concreteness (i.e., mistaking an abstraction for the reality which it represents) when they proceeded from a few general laws of human nature directly to a delineation of economic behavior in specific socie-

ties. They did not recognize the importance of social organization and institutions and cultural value-orientation in linking individual psychology and concrete behavior.

Life was conceived as essentially an economizing process because all activity was thought to be undertaken in order to increase pleasure or lessen pain and man's human resources are limited. One consequence of such a conception of life is that economic organization is of vastly greater importance than social organization.

Even today many economists are not willing to consider economics as an aspect of the general science of human behavior. According to some theorists economics has no reference whatsoever to factual data.<sup>1</sup> The central question for them is, how would a thoroughly rational person behave in a competitive world of scarce resources? In this view economics is merely a deductive study of comparative values.

The factor which ultimately did more than anything else to undermine the model of pure competition in the United States was the concentration of economic power which occurred from 1880 to 1905. During this period the structure of the American economy was transformed by the formation of trusts, mergers, holding companies, patentlicensing agreements, interlocking directorates, and joint sales agencies. As a result of this mass consolidation movement the large, multiplant, vertically integrated corporation that we call big business emerged as our pre-eminent economic institution.

### Competition for Giants Only

According to the model of pure competition each seller's actions are forced in the way that a chess player must move his king when it is put in check. It is the pressure of the monolithic and impersonal market that insures an economic result in the best interests of society. The structural requirement for this result is the decentralization of economic power. Each of the buyers and sellers

who come into contact in the exchange process is so small relative to the total market, that he has no choice but to accept the going market price.

Because of the concentration of economic power in the hands of big business, competition today is between giants rather than pygmies in many markets, and the giants have a good deal of discretion over their pricing policy. Prices are determined administratively rather than taken as given by the market.

A major conclusion of a recent study of big business is that many large corporations price their products as though they were public utilities.<sup>2</sup> The fewness of sellers also makes possible a variety of collusive and independent activities to avoid price competition (e.g., overt agreements to fix prices or output; price leadership; uniform cost accounting systems and pricing formulae; basing point pricing). Furthermore, nonprice competition in advertising, packaging, and product innovation attenuate the assumption of price competition.

### Consumer No Longer Sovereign

Nonprice competition also seriously weakens the restraint placed on firm behavior by consumer sovereignty in the classical model. According to the doctrine of consumer sovereignty the end of economic activity is consumption, so the consumers ultimately determine what is produced in the economy. They allocate their income among the goods competing for their custom in such a way as to maximize their consumption satisfaction, and this insures the optimal allocation of resources in the economy.

The validity of this doctrine must come into question in an economy in which producers strongly influence consumption behavior through advertising, product innovation, and sales promotion. In addition, according to Galbraith the cultural climate is such that consumption is the means and production the end rather than the reverse.<sup>3</sup>

The weakening of the constraints on firm behavior of competition and consumer sovereignty struck a body blow at liberal economic theory from which it has not recovered. Oligopoly theory has been developed to make more realistic the model of how the economy works, but it has become bogged down in indeterminacy and offers no basis for unique predictions.

For a long time the significance of the crumbling of the foundations of the theory of pure competition for classical management ideology was not clearly perceived. So long as there was confidence that firm behavior ultimately is determined by the motive of profit maximization, the classical management ideology could be sustained. Economists might worry about how to make competition more effective so the economy would work according to their model, but businessmen could go their own way sure that they weren't "in business for their health." However, the concentration of economic power which led to the decline in competition and consumer sovereignty also emancipated management from the domination of the shareholders and relieved it of the necessity of maximizing profits.

### Stockholders Not Managers

Few of the individuals who hold stock in big business participate in any way in the management of the firm. Most shareholders feel that their stake in the enterprise is not large enough to warrant taking an active interest in management. Furthermore, they recognize that the task of managing big business is so complex, technical, and time-consuming that it is impossible for an outsider to do it justice. As long as dividends are regular and considered to give an adequate return on investment, stockholders are content with the incumbent management. It is only rarely that they rebel and attempt to oust an existing management.<sup>4</sup>

The separation of ownership and control of big business has shorn the owners of any

entrepreneurial function and they have become *rentiers*. The top management officials of most large corporations tend to be self-perpetuating oligarchies. They are members of the board of directors and in general, they dominate the board. There is no legal reason why big business management cannot be entirely self-selective if it chooses.

The autonomy of management means that it is not compelled to have the uni-dimensional profit motive the entrepreneur was supposed to have had in the nineteenth century. Executive incomes are semi-fixed and are not related in any set way to the profit experience of the firm. The independence of management from the shareholders makes it possible to emphasize other objectives such as the prestige of management; the position of the firm in the industry; the long run survival value of the firm; and the welfare of employees and customers. Beardsley Ruml thinks that profit is a kind of score in a competitive game which gives the winning management recognition.<sup>5</sup> It may reasonably be concluded that while profits must be earned to maintain management in power, there is no necessity that they be maximized. If management is under no compulsion to maximize profits the classical management ideology is not valid and there is no unequivocal rule of action to guide the behavior of executives in operating the firm.

### Socially Responsible Management

The implications for the classical management ideology of the weakening of the social controls over management have not been lost on many top executives. Some of them have searched for a new credo and have invented the ideology of "socially responsible management," which is assuming the proportions of a new orthodoxy.

They contend that the corporation is such a powerful institution in American life that it is socially disastrous to conceive of it as merely a profit-making organization. Whether management likes it or not its func-

tion must change, they argue. It must accept its full responsibility for the way in which the activities of big business affect society. If it does not, the corporation "may be in danger of eclipse because of its failure to safeguard the environmental conditions that nurture its survival and growth."<sup>6</sup>

It is frequently suggested that the proper function of management is to administer the enterprise for the welfare of several groups in addition to the shareholders (e.g., employees, customers, suppliers, the community, government), impersonally arbitrating among their various interests. This approach appeals to many management men because of its moral tone, and it is being articulated explicitly in the company creeds and management philosophies which big business has publicly announced in recent years.<sup>7</sup>

Among the overt manifestations of the new orthodoxy are participation by executives in political affairs, corporate giving, support of educational institutions, various employee welfare measures, community relations, and intensified public relations campaigns. These activities are considered essential to safeguard the position of the corporation, and sometimes they are justified on this basis alone. According to Richard Eells, "A prudent regard for all the interests that merge in making the business a going concern now and in the future is, in fact, the only way to protect and to augment shareholder equity."<sup>8</sup>

But it would be a mistake to think that social responsibility of management is merely a public relations gesture that has as its objective the protection of the firm's profit position. As Theodore Levitt points out, "Self-conscious dedication to social responsibility may have started as a purely defensive maneuver against strident attacks on big corporations and on the moral efficacy of the profit system. But defense alone no longer explains the motive."<sup>9</sup> There is a sincere desire on the part of responsible

executives to gain the respect of the general public by utilizing their considerable power for the common good. The focus is on the corporation as a social institution and the pursuit of profit is secondary in importance to the public interest.

### The "New Feudalism"

The new orthodoxy has its opponents as well as proponents; there has been a strong revival of the classical management ideology as a reaction to the doctrine of management responsibility to society. Theodore Levitt, who has written one of the most incisive rebuttals of the new orthodoxy, says "the business of business is profits . . . In the end business has only two responsibilities—to obey the every-day face-to-face civility (honesty, good faith, and so on) and to seek material gain." He foresees the new orthodoxy leading to "a new feudalism," with the corporation investing itself "with all-embracing duties, obligations, and finally powers—ministering to the whole man and molding him and society in the image of the corporation's narrow ambitions and its essentially unsocial needs."<sup>10</sup>

Others fear that so much capital, talent, and energy will be devoted to essentially social welfare measures that the corporation will not be able to get on with its job. This is objected to on moral grounds because the interests of the shareholders will be sacrificed for those of other groups. Those who view management within the traditional motivational framework of profit maximization argue that the exercise of managerial powers to benefit anyone but the shareholders is illegitimate and not in the best interests of society in the long run.

Kelso and Adler say, "For the management of a corporate enterprise to dispose of what rightfully belongs to its stockholders without their free, present and affirmatively expressed consent is despotism, and it remains despotism no matter how benevolent or wise management is in acting for what it



thinks to be in the 'best interests' of its stockholders."<sup>11</sup>

### New Managerial Elite

But the most fundamental objection to the new orthodoxy is that it strikes at one of the foundations of capitalism, the separation of political and economic power through the institutional device of private property. According to one line of thought we are in danger of coming under the domination of a management elite as powerful and as unresponsive to the popular will as the bureaucratic industrial leaderships which operated the prewar Nazi and Fascist economies and the one which controls the contemporary Soviet economy.

This is the eventual outcome predicted by James Burnham in his pioneer work *The Managerial Revolution*,<sup>12</sup> and according to sociologist C. Wright Mills we have already reached this stage in the United States. Mills denies that the American people govern themselves economically or politically. He thinks that power of a generalized nature is concentrated in the hands of a political, economic, and military elite. Autonomous big business management is in the driver's seat in the economy and it has a smooth working relationship with the warlords and the politically powerful.<sup>13</sup>

### Which Is Right?

Which is right, classical management ideology or the new orthodoxy? The former is solidly based on a refined theoretical system, which is itself erected on misleading if not invalid assumptions. The latter has more claim to realism, but it is not based on any theoretical foundation. Of the two, the new orthodoxy is less guilty of the fallacy of misplaced concreteness, but it too is described and discussed within the frame of reference of traditional liberal economic theory which treats the economy as a discrete entity not subject to the laws of society.

Man does live in society and he must

come to grips in some way with social laws which are human in origin and application. Economic activities are influenced, just as every other aspect of man's social behavior, by the society and culture in which he lives. To get at the reality of management ideology the frame of reference must be a specific society with a unique social organization and system of values.

### The Strain Theory of Ideology

The business executive is not a robot who functions only within and for the corporation. His role as businessman is just one of the parts which he plays in the social drama. He also participates in society as husband, father, neighbor, voter, taxpayer, and citizen. Associated with each role is a mode of behavior which is culturally determined and socially recognized.

The executive must conform to the behavioral norms which apply to his various roles in some minimal degree if he is to enjoy the benefits bestowed on the individual by his society. This is not a simple matter because many of the demands made upon him in the various roles he occupies are inconsistent with one another.

This strains the management role and gives rise to stress in the individual.<sup>14</sup>

For instance, a rising junior executive may find it expedient to remain silent on a political issue if his views differ with those of his superior because an overt difference of opinion may hurt his chances for promotion. The individual must protect himself against the tension produced by conflicts between his different roles if he is to survive and function effectively in the various areas of life in which he participates.

### Separation of Business and Ethics

One solution is to avoid conflict by keeping the roles and their associated behavioral norms and values in airtight compartments so that the contact which is a necessary precondition for conflict never occurs. This



approach to the problem is difficult to maintain, and it is much less common today than in previous eras. In *The Folklore of Capitalism* Thurman Arnold reproduces a newspaper report as it appeared in *The Washington Post* on July 12, 1937 of the testimony of John E. Edgerton, former president of the National Association of Manufacturers, before the Senate committee holding hearings on the Black-Connery wages and hours bill in 1937:

Baldish and grim-faced, his sandy eyebrows knitted in a scowl, Edgerton had told the committee that he had "allowed" a number of grandmothers to work for \$6 a week during the depression "as a human thing."

Apparently shocked by his testimony, both Republicans and Democrats joined in close examination of the aggressive witness. . . .

Edgerton burst out: "Why, I've never thought of paying men on a basis of what they need. I don't inquire into what they want. I pay men for efficiency."

"Personally I attend to all those other things, social welfare stuff, in my church work." (Here the crowd in the hearing room roared with laughter.)

Edgerton, glaring at the spectators, sneered:

"Of course, some people don't know about that sort of thing, church work and so . . . But *that's the feeling side of life, church contributions and church work. That's not business.*"<sup>15</sup>

Few businessmen today hold such a fragmented view of the world, and not many who do would care to admit it. But they have the same psychological need as Mr. Edgerton to avoid conflict between values. As businessmen they are sometimes compelled to take actions which are contrary to the demands of their other social roles in the family and community.

Management ideology fulfills the vital

function of resolving and alleviating the anxieties and doubts caused by the conflict between business and nonbusiness norms and values. Thus management ideology has a psychological rather than an economic origin. It is an essential part of the executive's psychological equipment to meet the demands of his occupation. This suggests that in order to understand the phenomenon of management ideology it is necessary to first know why there is strain in the management role.

### Strain in Management Role

There must be a high degree of social control over management; it is one of the most important roles in the social system because of the emphasis placed on economic well-being in our value system. We are a materialistic people in the sense that we place a much higher value on human comfort and pleasure in the present life than contemplation of a life hereafter.

Sustained economic progress is one of our most cherished goals. Consequently, we are rationalistic in organizing economic resources, and we have confidence in man's ability to eventually subjugate nature. Management is bound to play a key role in achieving the goal states of such a value system.

It is because of the importance of the management role that executives feel so much strain in their business life that they need an ideology. They share this need with congressmen, bishops, generals, and other individuals to whom society has allocated a large measure of power as one of the facilities to be exercised in the performance of their roles. If incumbents of management roles had the same degree of control over social and nonsocial objects as newsvendors there would be as little need for a management ideology as there is for newsvendors' ideology.

A second cause of strain is the nebulous nature of management role expectations. The

function of management essentially is to organize, coordinate, and direct disparate talents and activities to accomplish collective goals. This tells us little about what to expect from an executive in any particular management situation. There is a wide variety of possible approaches to the same management objective, and for this reason management will always be more of an art than a science. If the role expectations of management were as explicit and circumscribed as those of the occupational role of the mailman, there would be little room for discretion and the second source of strain would not exist.

### **Why Managers Are Conservative**

But what is the cause of conflict which gives rise to the strain? To answer this question the relationship between society and its economic sub-system, within which management functions, must be examined. The economy is the sub-system of the society which is chiefly concerned with means. It is in the political sphere that the question of ends is resolved.

Because of its key role in the economy, management is in the forefront of the process of adapting economic means to ends. In the broadest sense the role expectations of management consist of a generalized readiness to carry out society's will in the economic sphere. The strain arises because of the impossibility of achieving a smooth articulation between the ends of societal goal states and the means of management role expectations.

Societal goal states are uncertain in the short run because they are formed in the crucible of interaction between values and events. Values are relatively stable in the long run, but events are in constant turmoil. Some events continually further the emergence of goals associated with particular values and others hinder them, and it is not till long after the battle is over that the turning point can be assessed. Society is always

moving in some direction, but at any one time it is difficult to interpret the social drift.

This is the reason for the conservatism of businessmen. Like judges, executives tend to be reluctant to exercise their power to take the lead in directing the course of social change. It seems paradoxical that management is one of the most conservative groups in society because it is in the vanguard of technological progress. On this point James Worthy says, "the philosophy of liberalism is by and large more natural and comfortable for the modern businessman and better fitted to the needs of his role than the philosophy of conservatism."<sup>18</sup>

This view has much to recommend it, but it overlooks the importance for social stability of a lag between changes in societal goal states and their implementation in the economy. If management were to become the architect of social progress the economy would engulf the society.

It is part of the burden of management that it must forever follow the uneven and winding trail of social consensus. Because social change is a more or less permanent condition and management is by temperament and social necessity conservative, there will always be strain in the management role. When it becomes clear what the social consensus is, executives adapt their behavior to the new status quo and adopt an appropriate ideology so that the level of strain in the management role can be reduced.

### **"The Felt Necessity of the Times"**

Strain in the management role serves the invaluable social purpose of forcing executives to reorient their role expectations in line with the current social drift so that the economy is integrated with the rest of society. Management ideology is merely the reduction gear which enables executives to integrate into their business life the changes in social goals to which they are made sensitive by their participation in other spheres of life.

In his search for the wellsprings of the common law, Oliver Wendell Holmes was impressed with the turning, twisting convolutions the law had taken historically. He concluded that there were no ultimate truths which had been successively refined to form the corpus of law, but rather the law was a reflection of the tortuous path which the social organism had traversed. The only interpretation consistent with the facts was that the law was molded in conformity with "the felt necessity of the times."

Justice Holmes' reasoning has just as much relevance for management ideology as the common law. The classical management ideology had a powerful sway over men's minds in the late eighteenth and nineteenth centuries because it was consistent with a profoundly important shift in direction of the social organism.

For the complementary societal goals of social equality and the dignity of the individual to be achieved a much more rapid development of economic resources than had ever occurred in the past was necessary. The profit motive was essential to secure the degree of motivation required for the successful exploitation of the new technology of the Industrial Revolution.

The mistake made by the classical economists was to think that the profit motive is instinctual, whereas the truth is that the profit motive and all that it stands for can be an important motivation only so long as it conduces to movement in the direction of societal goal states. The current confusion over profit maximization versus social responsibility of management is simply a reflection of the difficulty of interpreting the contemporary social mandate.

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